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## CONTENTS AND DIGEST

**The Etiology of Heart Failure. Theodore B. Barringer, Jr., M.D., New York** ..... 1143

Danger of reinfection of a damaged heart. Significance of fever and leukocytosis in patients with heart failure. Removal of foci of infection to prevent recurrent attacks.

**Significance of Unequal Pupils. Earl B. Brooks, M.D., Lincoln, Neb.** ..... 1145

Pathologic nature. Elements in recognition and proper interpretation.

**Spontaneous Pneumothorax. Ethan A. Gray, M.D., Chicago** ..... 1147

Diagnosis. Treatment. Results.

**Surgical Considerations of Gastric and Duodenal Ulcers. C. A. Roeder, M.D., Omaha** ..... 1150

Scar tissue defects. Treatment according to classification.

**Antisyphilitic Therapy. A Comparative Study of Some Intensive Methods. Louis Chargin, M.D., New York** .. 1154

Difficulty of obtaining standard antisyphilitic treatment. Relative value of intensive and less intensive plans of treatment. The Wassermann reaction as a criterion of the cure of syphilis. Plan of experimental study. Results of treatment with three plans.

**Apex, Hilum and Lower Lobe Lesions of Tuberculosis in Childhood: Their Relative Frequency. William R. Vis, M.D., Grand Rapids, Mich.** ..... 1156

Three sites of tuberculous infection. Location of most frequent lesions of tuberculosis in childhood. Causes for the predilection of the hilum to tuberculous infection.

**Surgical Operations on Aged Subjects. Robert M. Culler, M.D., Fort Sill, Okla.** ..... 1158

Instances suggesting that senility may be regarded too generally as a contraindication to surgery.

**The Salem, Ohio, Typhoid Epidemic: A Clinical Report. William Hall Bunn, M.D., Youngstown, Ohio** ..... 1159

Source and chronology. Clinical aspects of the cases. Complications. Treatment. Mortality. Effectiveness of antityphoid inoculation.

### CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

**A New Splint for Treating Fractures of the Long Bones. G. Carlyle Cooke, M.D., Winston-Salem, N. C.** ..... 1162

**Combination Mouth and Nose Piece Designed for Use with Metabolic Apparatus. John Walker Moore, M.D., Louisville, Ky.** ..... 1163

**A Tonsillectome. W. C. Toll, M.D., Simcoe, Ont.** ..... 1164

**A Case of Unusual Susceptibility to Iodin. H. E. Happel, M.D., St. Louis** ..... 1164

(Continued on next page)

### SPECIAL ARTICLE

**The War Risk Act and the Medical Services Created Under It. L. B. Rogers, M.D., Washington, D. C.** ... 1165

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## Bulletin

### NEW BOOKS

**Keen's Surgery — Vols. 7 and 8**
**Osborne's Therapeutics**
**Moynihan's Surgical Essays**
**Bandler's Endocrines**
**Boyd's Preventive Medicine**
**Moorhead's Traumatic Surgery**
**Morrow's Technic**
**Wilder, Foley and Ellithorpe's Primer for Diabetics.**

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**See Page 3**

## CONTENTS AND DIGEST—Concluded


### EDITORIALS

**The Martin Luther of Medical Education**.....1170
Leaders in the struggle to elevate standards.

**The Value of the Wassermann Reaction in Obstetrics and the Validity of Colles' Law**.....1171
Observations that give support to the possibility of paternal infection of the fetus.

**Progress in the Study of Measles**..1172
Results of animal inoculation.

### CURRENT COMMENT

**West Virginia Adopts Model Law**..1173
Forty-fifth state to pass bill for registration of births and deaths.

**Visceral Pain**.....1173
Wide distribution of nerves of the pain sense.

**The Public Health Activities of the Red Cross**.....1174
Attempt to coordinate the work in different countries.

**A Matter of Comfort and Health**...1174
Progress in the provision of comfort stations.

### ASSOCIATION NEWS 1175
The Boston Session.

### MEDICAL NEWS

CALIFORNIA: Doctor Sentenced — Physician Convicted — Personal — Chiropractors Convicted—Library on History of Medicine.1175
DISTRICT OF COLUMBIA: Physicians and Surgeons Participate .....1175
ILLINOIS: Chicago: Human Experiments with Scarlet Fever .....1176
INDIANA: Muncie Medical Meetings.....1176
IOWA: Tuberculosis Clinic—Medical Books to Be Circulated .....1176
KENTUCKY: Hygiene in High Schools....1176
LOUISIANA: Malaria Surveys—Occupation Tax .....1176
MARYLAND: Death of Professor Hynson—Personal—Dr. Jamar Honored—Dr. Thayer Resigns from Johns Hopkins University..1176
MASSACHUSETTS: Defeat of Anti-Vaccination Bill—Use of Schools as Health Centers.1176
MISSOURI: Change of Date for Medical Meeting — Hodgen Lecture on Surgery— Legislative News .....1176
NEW YORK: Provisional Fund for Albany Medical College—Proposed Organization of Medical Interests—Legislative News. New York City: Personal — Cooperation of National Health Agencies — Special Medical Courses at Columbia .....1176
NORTH CAROLINA: Personal—Meeting of State Organizations — Medical Representatives to Confer with Health Board.....1177
OHIO: Illegal Practitioner Fined — Mental Hygiene Survey .....1177
OKLAHOMA: New Officers of Medical Society—Tests for Racial Intelligence.....1177
PENNSYLVANIA: Legislative News—Personal. Philadelphia: College of Physicians—Personal .....1177
TEXAS: Physician to Serve Penitentiary Sentence .....1178
WISCONSIN: State Health Meeting.....1178
CANADA .....1178
GENERAL .....1178
LATIN AMERICA .....1178
FOREIGN .....1179

### GOVERNMENT SERVICES 1179
The Medical Reserve Corps, Its Present Status and Plans for Its Reorganization.

### FOREIGN LETTERS 1181
London—Madrid—Paris—Berlin—Prague.

### MARRIAGES 1184

### DEATHS 1184

### PROPAGANDA FOR REFORM 1185
More Misbranded Nostrums.

### CORRESPONDENCE 1186
"Experimental Studies of Epidemic Encephalitis"—An Ideal Urethral Instillating Syringe—Error in Reporting Paterson (N. J.) Mortality from Typhoid Fever — "The Effect of Phosphorus in Rickets."

### QUERIES AND MINOR NOTES 1187
Toxicity of Ether — Milk and Molasses Enema —The Soy Bean.

### MEDICAL EDUCATION, REGISTRATION AND HOSPITAL SERVICE 1188
Coming Examinations.
An Introductory Course in Functional Pathology for Second Year Medical Students. W. H. Manwaring, M.D., Stanford University, Calif.

### SOCIAL MEDICINE AND MEDICAL ECONOMICS 1189
Group medicine. I. P. P. Hollingsworth, M.D., Philadelphia.

### BOOK NOTICES 1190

### MEDICOLEGAL 1191
Malpractice Not Shown in Compound Fracture Case—Liability for Injury to Employee from Influenza.

### SOCIETY PROCEEDINGS 1191
Coming Meetings.

### CURRENT MEDICAL LITERATURE

#### American Medical Journals

Fibrosis and Thrombophlebitis of Spleen — Studies in Exhaustion — Perthes' Disease—Prognosis in Prostatectomy — Pelvic Abscess —Gynecologic Significance of Appendicitis—Treatment of Pes Cavus — Congenital Cervical Fistula—Diverticula of Jejunum..1192

Cause of Idiopathic Hydrocephalus—Diagnosis of Syphilis in Fetus—Internal Migration of Ovum—Repeated Transfusions in Pernicious Anemia—Absorption of True Solutions and Colloids from Peritoneal Cavity.....1193

Effect of Cellular Reaction Induced by Roentgen Rays on Cancer Grafts—Leukocytic Response During Reaction of Artificial Immunity in Tuberculosis — Infectivity of Nasopharyngeal Secretions in Influenza—Experimental Measles — Chemical Nature of Antibody .....1194

Classification of Bright's Disease—Temperature Control as Related to Improvement in Milk, Cream and Butter—Effect of Surgical Operations on Blood Pressure.....1195

Suture of Peripheral Nerves — Chemical Influence of Ductless Gland Constituents — Thyroid Disease—Tumors of Kidney—Treatment of Suppuration in Posterior Mediastinum — Reconstruction of Hand — Epicondylitis Humerii — Abscess of Prostate — Incision for Gasserian Ganglion Operation—Pin Method for Approximating Patella Fragments—Plaster Rope Cast.....1196

#### Foreign Medical Journals

Antimony in Leprosy—Strain Causes Rupture of Duodenal Ulcer—Tuberculin in Epilepsy — Sporotrichosis — Tincture Iodin Intravenously in Septic Conditions.....1197

Detoxicated Vaccine—Quasicontinuous Temperature Record — Heliotherapy — Acute Puerperal Salpingoperitonitis — Splenectomy for Torsion of Wandering Spleen Pedicle...1198

Nomenclature of Diseases — Remote Results of Laryngectomy for Cancer — Fasting Treatment of Diabetes—Hemostasis—Resection for Cancer of Colon — Epidemic Encephalitis — Pathogenic Power of Morgan's Bacillus and Castellani's Bacillus — Supernumerary Teeth in the Orbit—Acid-Resisting Bacillus Infection—Helminthiasis and Painful Dysmenorrhea — Jaundice After Arsenical Treatment .....1199

Fatal Puerperal Endocarditis — Stenosis of the Pylorus in the Newly Born — Treatment of Epidemic Encephalitis—Serum Sickness Taking the Form of Arrhythmia—Case of Rabies —Scurvy in Infants—Peritonsillar Phlegmon —The Spa Test of Recovery from Tuberculosis—The Spinal Fluid and Blood Findings in Hysteria—Surgical Treatment of Angina Pectoris — Nitrous Oxid and Cholemia — Anomalies in the Regular Pulse.....1200

Sudden Death in Heart Disease—Basal Metabolism—Uremia with Pulsus Alternans—The Scientific Study of Heliotherapy and Phototherapy — Occult Bleeding in Diagnosis of Gastric Cancer—Calcium and Tuberculosis in Rabbits — Treatment of Whooping Cough — Pain in Iliac Fossa with Chronic Constipation .....1201

Perforated Gastric Ulcer and Necrosis of Fat Tissue — Diagnosis of Surgical Tuberculosis —Double Femoral Hernia—Pseudarthrosis of the Ulna — Decompressive Operation with Fracture of the Skull — Gastro-Intestinal Hemorrhage After Herniotomy — Primary Sarcoma of Small Intestine — Ptosis of the Pylorus as Cause of Gallstone Colic — [illegible] trorrhea in Pregnancy— Thoracopa[illegible] tion of Spinal Anesthesia on the Li[illegible] Kidney—Ventrofixation and Pregnancy—Injections of Milk in Surgical Affections—Fat Implants .....1202

Parenteral Injections of Milk — Decompressive Craniotomy for Pituitary Symptoms — The Calcaneum Reflex—Eczema of the Ear—Neurasthenia and Anguish Neuroses — Oculopalpebral Sign—Syphilitic Disease of the Aorta — Hygiene in the Medical Curriculum — Hemorrhagic Purpura—Factors in Defective Development—Anthrax—Excretion of Tubercle Bacilli in Bile—Abnormal Functioning of Ductless Glands During Pregnancy — Tubal Tuberculous Processes .....1203

Tubal Sterilization—Collifixation of the Uterus —Stupor and Eclampsia—Sedimentation Rate of Red Corpuscles — Curvature of the Spine —Dyspnea from Stenosis in Children—Idiosyncrasy to Cow's Milk—Ossification of the Hand—The Bacteriologic Aspects of Chronic Prostatitis Following Gonorrhea; Effect of Autogenous Vaccines — Rejuvenation Operations—Baths to Enhance Action of Quinin—The Treatment of Rachitic Curvatures..1204

Plastic Reconstruction of Urethra and Esophagus — Multiple Progressive Ossifying Myositis—Growth Anomalies and Atrophy in the Skeleton — Beethoven's Disease —Treatment of Tuberculosis of the Kidney—Toe Sign in Meningitis and Brain Edema—Treatment of Pertussis with Silver Nitrate—Gout.....1205

The Heart and the Internal Secretions — The Leukocyte Count and the Attitude — Febrile Reaction to Injection of Milk — Spiral Sutures Without Incision for Varicose Veins—Improved Technic for Wiring Fractures — Entero-Anastomosis in Treatment of Ileus—Changes in the Blood with the Diet — The Loss of Weight in the Newly Born — Transplantation Cancers—Treatment of Poliomyelitis .....1206


TONICS AND SEDATIVES.....
.....Adv. Page 20

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## THE ETIOLOGY OF HEART FAILURE*


THEODORE B. BARRINGER, JR., M.D.
NEW YORK


There has been much discussion since 1917 about the prevention of heart disease, and the statement has been frequently made that the chief danger to which persons with heart disease are subject is a reinfection of the damaged heart.[1] In every clinician's experience there is a small group of heart patients which exemplifies this statement. The members of this group either die or are seriously incapacitated from a recurring endocarditis. There is, however, a large group of heart patients who suffer from attacks of what used to be called "decompensation" and are now called "heart failure" or "cardiac insufficiency," in which the cause of the breakdown is not considered to be an infection. It is thought to be, rather, a physical or mental strain, or the very nature of the mechanical defect in the valves is supposed to lead ultimately to a "decompensation." The very general restriction of the physical activity of patients with heart disease can be traced to this belief, for thereby it was thought that a breakdown could most certainly be avoided.

In 1917 I [2] made the statement that the particular danger to which "children with cardiac disease are exposed is more damage to the heart. This rarely results from exercise, but from infection." Thomas Lewis [3] has recently expressed the same view. If this idea is true, it is of the utmost importance from the standpoint of prevention. In order to give a basis of fact to this conception, it seemed necessary to examine a series of cases of cardiac failure to see whether any evidence of infection, either in the history or in course of the disease, could be detected.

The term "cardiac failure" indicates that condition in which the heart fails to carry on the circulation adequately. The failure may be sudden, as in pulmonary edema following coronary disease and myocarditis, or gradual, as in the disease I am discussing. The early symptoms are dyspnea, fatigue, precordial pain and palpitation during amounts of physical exercise which formerly did not cause these symptoms. The later signs of this condition are the evidences of venous congestion: cyanosis, engorged cervical veins, enlarged liver, and edema of the subcutaneous tissue, of the lungs, and of the serous cavities. The early symptoms are precisely the same symptoms which any patient with heart disease experiences when he carries out physical exercise beyond the capacity of his heart. They are the same symptoms that any person with a normal heart experiences when he performs work beyond his heart's capacity. They are, in other words, symptoms of overtaxing the heart. In the normal person and in the person with heart disease they disappear a few moments after completion of the work. Likewise, they disappear after perhaps a longer period in the patient with the beginning heart failure. There is, however, this important and significant difference in the latter patient: Each day, smaller and smaller amounts of work call forth these symptoms of cardiac overtaxing until finally he is confined to bed and the signs of venous congestion appear or increase. To express the sequence of events in different words, his cardiac reserve power, as shown by the exercise tolerance, has steadily decreased until the heart is unable to carry on the circulatory demands, even with the body at rest.

The symptoms of overtaxing the heart are frequently called symptoms of cardiac failure. Strictly speaking, this is incorrect. It is true that they are always present in heart failure, even in the absence of exertion; but they are not peculiar to heart failure for, as has just been said, they are present in normal persons and in persons with heart disease in whom there is no suspicion of heart failure. It is their progressive increase during smaller and smaller amounts of physical exercise which is characteristic of heart failure. Therefore, the term "cardiac failure" should be used only to indicate that condition showing either a sudden failure of the heart, as in pulmonary edema following coronary sclerosis, or a gradual failure, evidenced by a progressive decrease in the heart's reserve power (i. e., declining exercise tolerance) and the signs of venous congestion.

In accordance with the plan stated above, a table was compiled from the records of the Second Medical Division of the New York Hospital and from those of the House of Relief, which included all cases of heart failure complicating chronic cardiac valvular disease and chronic myocarditis, with these exceptions: No patient who remained in the hospital less than three days, no patient who had any complication that might cause fever, no patient who gave a history of syphilis or showed a positive Wassermann test, and no patient in whom a diagnosis of acute endocarditis was made, was included in these tables.

In the histories of these patients, particular attention was directed to the existence of any physical or mental strain, or any infection immediately preceding the onset of symptoms. A patient with a rectal temperature


* From the Second Medical Division, New York Hospital.


* Owing to lack of space, this article is abbreviated here by the omission of many tabulated case reports. The complete article appears in the author's reprints.

1. Barringer, T. B., Jr.: New York State J. M. 17: 403 (Sept.) 1917.
2. Letter to Dr. Haven Emerson, Health Commissioner of New York, Nov. 17, 1917, apropos of Physical Training Syllabus for New York State, 1917.
3. Lewis, Thomas: The Soldier's Heart and the Effort Syndrome, New York, Paul B. Hoeber, 1920, p. 37.

above 99.6 which continued for *more than two days* was considered to have fever. Also, the early symptoms of heart failure were noted.

There were 117 patients with valvular disease and thirty-seven patients with myocardial disease, making 154 patients with chronic heart disease. Five patients gave a history of physical strain immediately preceding the early symptoms, and two of mental strain. In eighteen patients the early symptoms followed directly some infection, like bronchitis or influenza. Of the early symptoms, precordial pain was present thirty-five times.

One hundred and seventeen patients showed fever of varying degrees, running a course of from three days to many weeks.

tosis are evidences rather of an infectious process in the heart itself which has caused the heart to fail.

A few patients observed from the beginning of the attack showed fever very early before there were any marked evidences of venous congestion. Some patients ran their course with minimum evidences of congestion and yet showed fever for days. In many patients improvement was coincident with disappearance of the fever. The fever and leukocytosis were not due in our series to any complication, for all patients with complications were carefully excluded. In the eighteen patients whose symptoms followed some general infection they (i. e., fever and leukocytosis) might conceivably have been due in a few cases to the original infection. In any hospital service all grades of heart

PATIENTS WITH CARDIAC FAILURE COMPLICATING CHRONIC VALVULAR DISEASE

| History Number | Etiology and Earliest Symptoms | Fever: Presence or Absence | Fever: Duration, Days | Fever: Height F. | Differential Count: Leukocytes | Differential Count: Polymorphonuclears | Comment* |
|---|---|---|---|---|---|---|---|
| 246 | Dyspnea | + | 2 | 100.0 | Normal | Normal | |
| 248 | "Lump in stomach" | + | 8 | 102.0 | 13,500 | 10,100 | |
| 250 | Dyspnea | + | 3 | 101.8 | Normal | Normal | |
| 272 | Dyspnea | + | 10 | 102.0 | Normal | Normal | |
| 142 | Dyspnea; fever; precordial pain | + | 7 | 101.8 | 11,200 | 8,000 | |
| 143 | Dyspnea; cough; fever | + | 11 | 102.4 | 15,000 | 12,100 | |
| | **Patients With Cardiac Failure Complicating Chronic Myocarditis** | | | | | | |
| 6 | Orthopnea; edema | + | 18 | 101.2 | Normal | | |
| 7 | Orthopnea; edema | + | 2 | 100.0 | Normal | | |
| 11 | Dyspnea; epigastric pain; edema | + | 6 | 103.0 | Normal | | |
| 14 | Orthopnea; precordial pain; edema | + | 5 | 101.6 | Normal | ..... | Pulmonary edema |
| 17 | Dyspnea; edema | + | 1 | 99.8 | 16,000 | 13,000 | |
| 21 | Edema; dyspnea; precordial pain | + | 2 | 99.8 | Normal | | |
| | **Patients With Either Valvular Disease or Myocarditis Alleging Physical or Mental Strain as Cause of Heart's Failure** | | | | | | |
| 251 | After working 2 days in telephone operators' school became dyspneic (mental strain ?); valvular disease | + | 3 | 101.8 | Normal | Normal | |
| 160 | Ten weeks previous wakened from sleep by an accident; much nervous strain and excitement; fainted; became dyspneic; later hemoptysis; dyspneic since valvular disease | + | 5 | 102.6 | 13,000 | 9,700 | Died |
| 268 | Six weeks previous, after lifting heavy scales, an attack of angina, repeated a number of times following physical or mental strain (aortic regurgitation; large heart; syphilis); dyspnea | + | 2 | 100.2 | 12,000 | 8,400 | |
| 113 | August, 1916, after 2 hours of sea bathing, felt weak and had palpitation; a few days later dyspnea and precordial pain; double mitral | + | 13 | 100.6 | 21,000 | 12,600 | |
| 3289 | While doing heavy work as captain of a scow, became short of breath; a few days later admitted; dyspneic and cyanosed; heart beat rapid, fibrillating; mitral stenosis | 0 | .. | ..... | ? | | |
| 3734 | Less than 4 weeks after heavy work moving boxes became dyspneic, weak, and had oppression in chest; pulmonary edema when admitted; myocarditis | + | 4 | 101.0 | ? | | |
| 1126 | One week before admission ran one block; at once became dyspneic and had palpitation; dyspneic and weak for several days; this continued until admission; mitral lesion; auricular fibrillation | + | 18 | 101.6 | Normal | ..... | Negative b.c. |
| | **Patients With Either Valvular Disease or Myocarditis Whose Symptoms Are a Sequel of Some Infection** | | | | | | |
| 4 | Caught cold 2 weeks before; since then dyspnea and edema; myocarditis | + | 10 | 100.6 | Normal | | |
| 7 | Attack of influenza 4 weeks previous, followed by dyspnea and exhaustion; myocarditis | + | 6 | 101.0 | ? | | |
| 12 | Caught cold one week previous; precordial pain | + | 30 | 101.0 | 11,000 | 8,500 | Negative b.c. |
| 66 | Four weeks previous convalescent from attack of rheumatic fever; dyspnea and precordial pain | + | 5 | 101.0 | 12,000 | 9,200 | |
| 86 | Caught cold 2 weeks previous, followed by cough and dyspnea | + | 11 | 101.0 | 18,200 | 12,100 | |
| 102 | Cold and cough 3 weeks previous; edema | + | 21 | 102.0 | 15,300 | 9,000 | |

* In the table, b.c. indicates blood culture.

Sixty-nine patients showed an increase above normal of the polymorphonuclear leukocytes (blood counts were made in 134 cases).

Fever and leukocytosis in patients with heart failure have generally been considered to be due to the pulmonary congestion or the general venous congestion. This idea is a natural sequel to the conception that the cause of cardiac failure is predominantly a mechanical one inherent in the very nature of the valvular lesion and determined generally by a physical or mental strain. I think this idea is erroneous. Not only is the aforesaid conception of the cause of heart failure at variance with the teaching of the newer circulatory physiology and with clinical experience, but in addition there are reasons derived from a study of our series which make us incline strongly to the belief that fever and leukocytosis is important confirmatory evidence in failure may be seen, from the patient sick for a week with slight congestion and a few days' fever to the patient with acute recurrent endocarditis, much congestion, and weeks of fever. One disease we call cardiac failure and the other acute recurrent endocarditis, and yet the similarity between them, clinically speaking, is close and striking. Fever and leukocytosis we therefore believe should be logically attributed directly to the organ chiefly involved in cardiac failure, the heart, and not to any secondary process arising from the cardiac failure. Fever and leukocytosis mean, in general, infection, and no good reason exists for attributing any other significance to them in this condition. That 75 per cent. of our patients showed fever and 51 per cent. of those in whom blood counts were made showed a leukocytosis

support of the view that cardiac failure in the majority of instances is a disease of infectious nature in which the site of infection is the heart itself.

The unimportant part which physical or mental strain plays in causing heart failure is shown by the few instances we report, seven [4] out of 154 patients. It seems improbable that the condition produced by these unusual causes is any different from that existing generally in cardiac failure, for six of these patients showed fever and three a leukocytosis.

Although the evidence advanced that heart failure is caused by an infectious process in the heart itself is not conclusive, it is sufficient to emphasize the importance of eradicating any focus of infection which may be present elsewhere in the body. It may well be that the removal of such foci will prove to be the most efficacious measure we possess for preventing recurrent attacks of heart failure in patients with chronic heart disease.

112 East Seventy-Sixth Street.

## SIGNIFICANCE OF UNEQUAL PUPILS

EARL B. BROOKS, M.D.

LINCOLN, NEB.

The chief significance of unequal pupils lies in their being an important symptom of a widespread and deeply seated disease. It therefore seemed appropriate to review some of the clinical conditions with which this symptom is associated. But before doing so, a brief discussion of the innervation of the iris may be of assistance.

### INNERVATION OF THE IRIS

The muscular tissue of the iris is divided into the sphincter pupillae, a well marked circular band of involuntary muscle fibers surrounding the pupillary margin, and certain radially arranged, much less clearly marked fibers situated near the posterior surface called the dilatator pupillae. These two muscles are called the pupillary muscles, and each has a separate and independent motor nerve supply which constitutes the myotic and mydriatic nerves.

The oculomotor, or third, nerve innervates the sphincter pupillae and contains the pupil constricting fibers which arise from its nucleus in the pons. From this point the fibers proceed in the main trunk of the nerve through the cavernous sinus to the orbit and pass into the branch which supplies the inferior oblique, which they leave by way of the twig which constitutes the short root of the ciliary ganglion, and finally arrive at the sphincter by the short ciliary nerves which penetrate the sclerotic around the optic nerve and pass forward in the choroid and ciliary body to their destination in the iris. This line of communication between the nucleus of the third nerve and the sphincter is called the myotic or efferent path, also known as the efferent pathway of the pupil reflex. Stimulation of it contracts the pupil; section of it dilates the pupil.

The cervical sympathetic innervates the dilatator pupillae. The dilatator tract proceeds from possibly a cortical center to the center in the medulla and thence into the lateral columns of the spinal cord as far as the ventral roots of the eighth cervical and first and second dorsal nerves. Thence through the rami communicantes they pass to the superior cervical ganglions, and then upward through the internal carotid plexus and gasserian ganglion, through the nasal branch of the ophthalmic nerve, from which are given off the two long ciliary nerves. These penetrate the sclera about the optic nerve and are distributed to the ciliary muscle and the iris. This is called the mydriatic tract, and stimulation of it causes dilatation of the pupil; section of it, contraction of the pupil.

In addition to the sphincter and dilatator muscles of the iris, there are the involuntary muscles of the orbits which are innervated by the cervical sympathetic. Thus, behind the eyeball, smooth muscle fibers occur in the periosteum and form a strong layer closing the orbital fissure. This is the musculus orbitalis, which prevents the contents of the orbit from sinking backward.

In the tendons of the levator palpebrae superioris, there are also smooth muscle fibers; and closely related to these are the tarsal muscles: small masses of involuntary muscles which lie at the base of the upper and lower lids and insert into the tarsi. All these through their tonic activity tend to keep the palpebral fissure wide open.

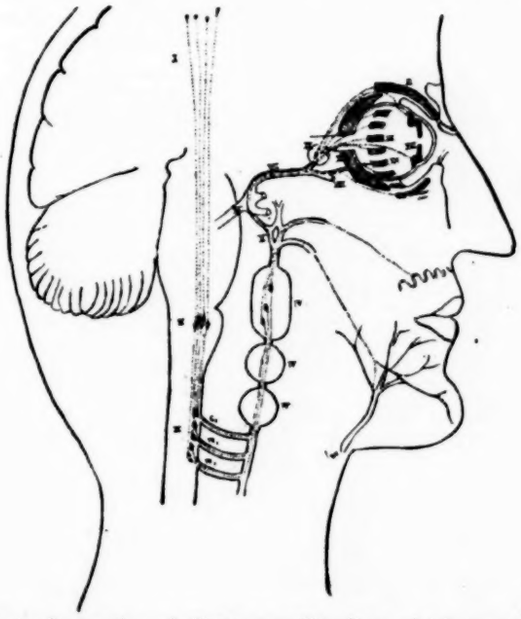

Fig. 1.—Innervation of dilatator pupillae fibers of iris or mydriatic pathway (permission of Soarlett and Cobb, Tr. Am. Acad. Ophth. & Oto-Laryngol., 1919, p. 90): 1, cortical path; 2, bulbar center; 3, ciliospinal center in lower cervical and upper thoracic cord: C. 8, Th. 1 and Th. 2, represent rami communicantes to cervical sympathetic chain; 4, cervical sympathetic ganglions, inferior, middle and superior; 5, internal carotid plexus, giving off branches to (*a*) sweat glands of face, and (*b*) blood vessels of face; 6, trigeminal nerve; 7, ophthalmic nerve; 8, nasociliary nerve; 9, ciliary ganglion; 10, orbital muscle (of Muller); 11, levator palpebrae superioris with sympathetic branch to the smooth muscle fibers; 12, tarsal muscles; 13, dilator muscles of the pupil.

The course of the afferent pathway is not certainly known, but it is thought that, beginning in the retina, arising from all parts of it, fibers proceed in the optic nerve and in all probability are differentiated from those which are concerned with vision. In the chiasm these pupillary fibers undergo a partial decussation and enter the optic tracts, which they leave just in advance of the external geniculate body and reach the third nerve nucleus.

### ANISOCORIA

Disorders of motility of the iris may manifest themselves in diminished reaction of the latter, but chiefly in alteration of the diameter of the pupil. This alteration of diameter may affect both pupils, so that they are

4. Case 268, it was learned after our tables had been made, was of syphilitic origin, and the physical strain caused an attack of angina. It should not have been included.

equal, which condition is called, technically, isocoria. Or the alteration of the diameter may affect one pupil only so that unequal pupils result. This condition is called anisocoria.

If the inequality of the pupils is slight and neither pupil shows great variation from the average width we may be in doubt as to which of the pupils should be regarded as the abnormal one. The distinction is made by testing the reaction of each pupil by carefully alternately shading and illuminating the two eyes at once; the pupil which shows the less marked reaction of the two is the diseased one.

Such writers as Hansell and Sweet,[1] de Schweinitz [2] and Fuchs [3] say that anisocoria is always pathologic, though they qualify their statement to the effect that slight differences in size of the pupils are not uncommon in individuals in perfect health. Barrie [4] examined a large number of men, and found inequality of the pupils in 11 per cent. in whom there were no sign of

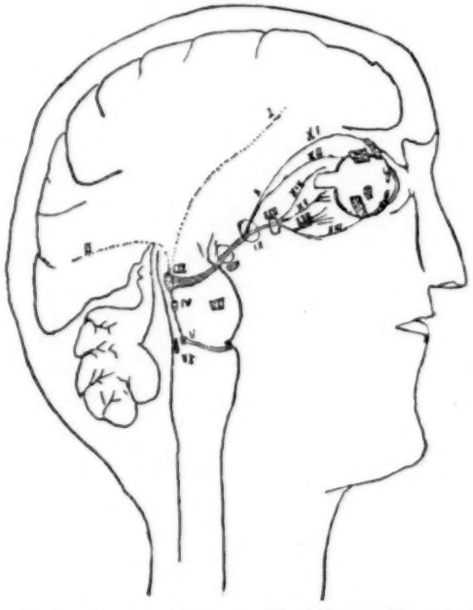

Fig. 2.—Innervation of sphincter pupillae fibers of iris or myotic pathway: 1, axons from neurons within posterior part of inferior frontal convolution; 2, visual fibers from the occipital cortex; 3, oculomotor nucleus; 4, trochlear nucleus, connected with 3 and 5 by fibers of posterior longitudinal bundle; 5, abducens nucleus; 6, facial nucleus; 7, pons; 8, course of oculomotor nerve through cavernous sinus; 9, oculomotor nerve passing through sphenoidal fissure; 10, superior ramus, oculomotor nerve; 11, levator palpebrae superioris; 12, superior rectus; 13, inferior ramus, oculomotor nerve passing into orbit between two heads of external rectus; 14, filaments of interior ramus to internal rectus; 15, filaments of inferior ramus to inferior rectus; 16, filaments of inferior ramus to inferior oblique; 17, ciliary ganglion with motor root.

ocular disease or manifestation of disease of the central nervous system. He concludes that: (1) Inequality of the pupils is frequent; (2) it is associated with all refractive conditions with a tendency to be more frequent in myopia; (3) the visual acuity is not affected adversely by the fact that one pupil is slightly larger than the other; (4) the left pupil is more frequently larger than the right; (5) inequality of the pupils occurs as a physiologic condition.

On the other hand, C. and H. Fromaget [5] discuss functional anisocoria and define it as a clinical syndrome without organic lesion, due to instability of the supranuclear center which coordinates the pupillary movement. They state that it is a functional inequality of the pupils developed in eyes in which the intrinsic motor apparatus is intact and the iridic function normal. They do not believe that difference of refractive power of the two eyes can of itself produce unequal pupils unless there is some profound anomaly of the center of coordination either of the internal or external motor apparatus of the globe.

1. Hansell and Sweet: Diseases of the Eye, 1903, p. 452.
2. De Schweinitz: Diseases of the Eye, Ed. 6, 1910, p. 76.
3. Fuchs, E.: Text-Book of Ophthalmology, Ed. 4, 1913, p. 374.
4. Barrie, T. S.: Inequality of Pupils, Brit. M. J. 2: 514 (Nov. 9) 1918.
5. Fromaget, C., and Fromaget, H.: Functional Anisocoria, Arch. d'ophth. 36: 277; Am. J. Ophth. 2: 356; Am. J. Ophth., 1919.

### MYDRIASIS AND MYOSIS

As intimated above, the chief alterations of the diameter of the pupils are dilation, or mydriasis, and contraction, or myosis. Mydriasis has been divided into irritation mydriasis caused by irritation or stimulation of the cervical sympathetic, and paralytic mydriasis, iridoplegia, caused by paralysis of the third nerve in some portion of its course. Likewise, myosis has been divided into irritation myosis caused by irritation of the pupil-contracting fibers of the third nerve, and paralytic myosis caused by paralysis of pupil dilating fibers, that is, the cervical sympathetic.

In the mydriasis due to irritation of the cervical sympathetic, the pupil may be moderately or widely dilated. If dilation is not extreme, it reacts to light accommodation and convergence. Atropin dilates to the maximum. Cocain usually does not further dilate the pupil nor is it readily contracted by pilocarpin.

Irritation mydriasis—irritation of the cervical sympathetic—occurs in:

1. Hyperemia or irritation of the cervical cord from:
   (*a*) Contusion or other trauma.
   (*b*) Pressure from:
      Pleural adhesions at the apex of the lung in tuberculosis.
      Syphilis.
      Aortic insufficiency.
      Aneurysm.
      Cervical glands.
2. Tumor of the cervical cord.
3. Spinal meningitis.
4. Acute mania.
5. Early stage of tabes and paretic dementia (though myosis is more often present in early tabes if there is any pupillary anomaly).
6. Wide and fixed in uremic, eclamptic and epileptic convulsions.
7. Ptomain poisoning.

The mydriasis due to paralysis of the oculomotor nerve is more frequent than the former. The pupil is dilated not necessarily to the maximum. It does not react to light accommodation and convergence, unless only paresis is present, when a sluggish reaction may be obtained; atropin and cocain still further dilate the pupil. Physostigmin (eserin) diminishes if the seat of the lesion is not higher than the ciliary ganglion.

Paralytic mydriasis—iridoplegia, paresis or paralysis of the sphincter, sphincter nucleus, or efferent tract—occurs in:

1. Basilar disease affecting the foregoing structures.
2. Pressure on the centrum, great in degree.
3. Edema of cortex.
4. Late stages of meningitis.
5. Hemorrhage of the centrum ovale or cerebral peduncles.
6. After diphtheria.
7. Trauma.
8. Glaucoma.
9. Mydriatic drugs: atropin, euphthalmin.

In the form of myosis caused by irritation or stimulation of the pupil-contracting fibers of the third nerve, the same factors which cause myosis may cause

mydriasis, depending on the degree and duration of the lesion. The pupil does not dilate in the dark, and is unaffected by light. Atropin dilates as normally; cocain and physostigmin are without effect.

Irritation myosis—irritation of the pupil—contracting fibers of the third nerve—occurs in:

1. All inflammation at the base of the brain and the meninges: simple; epidemic; tuberculous; syphilitic; traumatic (myosis passing over into mydriasis in any of the foregoing of grave import).
2. Brain abscess.
3. Beginning sinus disease.
4. Apoplexy.
5. Early tabes.
6. Early stage of tumor involving the third nerve.
7. Onset of hysterical or epileptic explosion.
8. Tobacco amblyopia.
9. Drugs: pilocarpin; opium; physostigmin; chloral.
10. Iritis.

In the form of myosis caused by paralysis of the pupil-dilating fibers of the cervical sympathetic, the pupil is contracted; but mobility is preserved in that it reacts to light and convergence. In the dark it dilates, but less perfectedly than the normal pupil. Atropin dilates a little; cocain an equal amount if the lesion is not beyond the superior cervical ganglion. Physostimin contracts to the maximum.

Paralytic myosis—paralysis of the pupil-dilating fibers from the cervical sympathetic—occurs in:

1. Lesions of the cervical cord.
2. Some forms of bulbar palsy.
3. Some forms of multiple neuritis.
4. Pseudo-dementia paralytica of syphilitic origin.
5. Pressure from: (*a*) goiter; (*b*) cervical glands; (*c*) aneurysm.
6. Trauma—syndrome of Claude Bernard-Horner.
   Myosis.
   Ptosis.
   Enophthalmos.

Recently, considerable work has been done on pupil changes following head injuries and injuries to the eyeball. Magitot [6] described a symptom triad consisting of myosis, myopia and decreased tension, which he observed in ocular injuries with integrity of the reflexes retained. The myosis is variable owing to spasm of the sphincter. The myopia rarely exceeds 3 diopters and is often accompanied by transitory astigmatism. Tension was usually from 6 to 10 mm. Schiötz. There may be an hypesthesia of the cornea lasting not more than from three to five hours and gradually disappearing. The condition is due to the intra-ocular sympathetic and disappears under atropin.

Magitot also speaks of the traumatic Argyll Robertson pupil. These cases are of interest on account of the location of the lesion. He states that, without doubt, it is within the orbit, but not in the retina because of the consensual reflexes still existing; not in the ciliary ganglion, because of the mydriasis present, and not in the sympathetic center, which is too deep to be affected by a purely ocular nonorbital traumatism. He locates the diseased organ within the globe in the "choroidal ganglion." Landolt,[7] in a study of inequality of the pupils after wounds of the skull and trephining, concludes that the trouble is neither spasmodic nor paralytic according to our classification given above. All the symptoms are accounted for, he maintains, by vasomotor disturbances of the iris.

6. Magitot, A.: Variations in Pupil After Ocular Injuries and Argyll Robertson Signs in Injury, Ann. d'ocul. **155**: 228, 1918.
7. Landolt, M.: Uneven Pupils After Trephining, Ann. de méd. **5**: 566, 1919.

Hoessly [8] discusses the condition of the pupil in cases of traumatic brain pressure. As a result of his research, he finds that bilateral pupil dilatation following general increased brain pressure depends on: (1) central conditional stimulation of the sympathetic; (2) a simultaneous diminishing of the sensitiveness of the oculomotor. The pupil phenomena occur immediately when the brain pressure exceeds the blood pressure.

Inequality of the pupils occurs as the result of local pressure. He believes that the dilation of the pupil in unilateral mydriasis always corresponds to the side of the increased pressure, and is explained by a conduction disturbance of the peripheral oculomotor.

SUMMARY

1. With the exclusion of eye disease and refractive errors, unequal pupils are always pathologic.
2. The width of the pupil and its reaction at any given time are the result of the constant antagonism between the contracting fiber of the third nerve, and dilating fibers of the cervical sympathetic.
3. The determination of whether or not we have to deal with an irritative or paralytic lesion will help materially in the recognition and proper interpretation of unequal pupils in any given case.
4. In contusion of the eyeball, besides the concussion, small lacerations and extravasation of blood into the iris muscles account for some of the pupil changes.
5. In head injuries, the dilated pupil corresponds to the side of increased pressure.

## SPONTANEOUS PNEUMOTHORAX

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Spontaneous pneumothorax is a not uncommon complication of pulmonary tuberculosis. Though usually considered as a concomitant of advanced tuberculosis of the lungs, it may occur in but slightly or moderately advanced cases.

It is a misconception to think that this condition is produced only by ulceration through a cavity wall into the pleural sinus; it may quite as likely be the result of a tear into the lung tissue at the site of a pleuritic adhesion. This may be brought about by sudden exertion, as coughing or sudden or undue physical effort; a tear results and, with air escaping from the lung, a pneumothorax is produced. The conventional description of pneumothorax includes, usually, sharp pain, shock or collapse, rapid pulse and dyspnea. This is a correct picture when the trauma is large. I have seen enough cases, however, in which the accident has been unnoticed by the patient, and the first indication of trouble was shortness of breath; in one case, two days, at least, had elapsed from the time of rupture to the time of complaint by the patient. A complete left pneumothorax was discovered, with the heart to the right of the sternum, without symptoms of any kind, save for a sense of discomfort in the chest and a slight acceleration of respiration. Manometric puncture revealed a strongly positive pressure in the chest. Another patient made no complaint of distress, and the situation was made evident only by the usual routine examination of the chest.

8. Hoessly, H.: Contraction of Pupil After Cerebral Injury, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **30**: 1, 1919.

Spontaneous pneumothorax occurs occasionally in cases in which an artificial pneumothorax has already been produced; here, ulceration through the thin cavity wall into the pleural cavity makes the case an open one; the accident is usually painless.

Rupture of an adhesion placed under tension by artificial pneumothorax is not at all uncommon; in such instances the tension is produced by the overcollapse. Then, when the adhesion has not become sufficiently organized it may give way; but, should it hold, and the adjacent pulmonary tissue not have been sufficiently reinforced by inflammatory exudate, a tear into it might easily be produced.

### SYMPTOMS

As already stated, the occurrence of spontaneous rupture of the lung may not be accompanied by any markedly acute symptoms, physical examination, delayed, perhaps, establishing the condition before symptoms point the way. Usually, or, at least, often enough, the occurrence is accompanied by pain, dyspnea and rapid pulse. Cyanosis soon appears, in a degree corresponding to the reduction in the amount of functioning lung tissue. When the uninjured lung offers an ample amount of respiratory area, the dyspnea may soon disappear or not be noted at all; when both lungs are extensively involved in the tuberculous process, cyanosis appears early. Soon after the rupture, infection of the pleural cavity is likely to occur, together with the temperature and pulse of empyema. Nevertheless, many patients do not present this picture, but recover with absorption of air and fluid, which latter is, under the circumstances, clean.

### SIGNS

Chief among the signs to be noted will be absence of breath sounds; dislocation of heart toward the uninjured side; marked tympany will be found all over the affected side except in the case of a partial pneumothorax with broad adhesions; here will be heard breath sounds, râles, perhaps, and other signs of a previously existing pathologic condition. Marked limitation of motion will be observed on the affected side. Should the pneumothorax be old, it may present a serothorax or pyothorax which will be easily demonstrated by percussion (the percussion note changing with posture), and the roentgen ray.

A word should be added here in regard to succussion: The splash which is produced by vigorously shaking the patient will be easily heard some distance from the patient's chest; the stethoscope is, as a rule, unnecessary.

Under certain conditions characterized by dyspnea, it might be necessary to differentiate between a large pulmonary cavity and a spontaneous pneumothorax; here, one salient point is to be borne in mind—in the case of pneumothorax, the heart is dislocated to the opposite side; in the presence of cavity the heart migrates, under the influence of adhesions, toward the affected side. More, in place of the silence which usually characterizes the pneumothorax, one finds, in the larger cavities, râles, clicks or amphoric phenomena, or all of these, together with a more or less constant Wintrich sign.

Another variety of pneumothorax is that which occurs in the upper chest. This is with difficulty differentiated from a cavity of the upper lobe. This localized pneumothorax is characterized by adhesions which prevent a general collapse of the lung. Such a case was reported by Dunham[1] in 1919. Dunham stated that he had failed to diagnose the condition correctly by the roentgenogram. Instead of the pneumothorax diagnosed from the plate, a thin walled cavity was found at necropsy.

Dunham[2] says:

> The cavities were unusually large and thin walled, occupying almost an entire lobe. The pneumothorax from which such cavities must be differentiated are localized pneumothoraces limited to the apex. It would not convey the truth if the profession were allowed to believe that it is difficult to differentiate ordinary cavities from ordinary pneumothoraces. You may say that, in addition to the case reported at Atlantic City, I have had a similar case at the Cincinnati General Hospital.

The correct diagnosis of spontaneous pneumothorax will be, of course, facilitated by the knowledge derived from the history of the case, that a diseased condition has existed for a time prior to the examination. In pneumothorax, fluid is frequently discovered by the patient himself, who reports that he hears the splash, or that he feels something moving in his chest.

### TREATMENT

Having established the diagnosis, the treatment should be directed by conditions. Before proceeding very far, one will, or should, have made a careful survey of the "good" (unimpaired) lung. Much depends on its integrity, for, if it is in good functioning condition, one may safely await developments. If the "good" lung is found to be seriously damaged, it may be found necessary to proceed to the aspiration of the pneumothorax. This is best done with a small (18 gage) needle, inserted between the ribs in any convenient space. A preliminary nick in the skin will facilitate the passage of the needle and materially reduce the pain of the puncture. When the pneumothorax has existed for only a short time, there is no danger in aspirating a large amount of air; except in cases of dire emergency the air thus taken out should be measured in a water displacement bottle.

Aspiration of air or fluid in old cases in which intrathoracic positive pressure has been maintained for a long time is fraught with danger, unless cautiously approached. Symptoms of distress may occur during the aspiration; these are nausea, weakness, sudden coughing, and a sense of pressure under the sternum. The last symptom mentioned—a sense of substernal pressure—should always be a signal for the interruption of the aspiration; if it is ignored, collapse of the patient and acute bronchorrhea are not unlikely to occur. Sudden bronchial catarrh I observed in one patient after aspiration of 700 c.c. of fluid in a large, old seropneumothorax. Constant cough preceded the profuse mucoid expectoration, which was accompanied by great dyspnea. Numerous râles were heard over the good lung. All symptoms disappeared after the injection, hypodermically, of atropin and the replacement of the aspirated fluid with 500 c.c. of nitrogen. Should the patient not require immediate aspiration, one may adopt the expectant policy, for the patient's condition frequently improves, with or without the appearance of fluid or pus. Recently, several cases have been reported that were treated by aspirating the air and replacing with physiologic sodium chlorid solution. The operators, whose names I unfortunately do not recall, report good results. However satisfactory their

1. Dunham: National Tuberculosis Association, Atlantic City Meeting, June, 1919.
2. Dunham: Personal communication to the author.

results may have been, it must be remembered that, when the opening is relatively large, the correctness of the procedure comes into question. I treated one such case by this method in which there was no apparent reason to suspect that the opening into the pleural cavity was at all large; as soon, however, as the salt solution was introduced, violent coughing occurred. A bronchopneumonia supervened so promptly that I was convinced that the treatment was directly responsible for the untoward issue.

It is evident that the course of a pneumothorax is rather lengthy; therefore, frequent observations are necessary. After a time, the return of respiratory sounds may be noted; from this point, especially, the line of treatment depends on the previous condition. Should the history show that tuberculosis of the injured lung existed prior to the pneumothorax, a continuation of the latter with its attendant lung collapse is advisable; especially is this true when the opposite lung functions in a satisfactory manner. The spontaneous pneumothorax is, therefore, to be regarded and treated as an artificial pneumothorax, the lung collapse being maintained by the introduction of sufficient nitrogen, from time to time. The correctness of this procedure is based on the therapeutic value of lung collapse. Bandelier and Roepke [3] emphatically condemn aspiration in the treatment of spontaneous pneumothorax, but I can point to cases in which the results justify it. For example, in a case in which the better lung of the two has suffered from the spontaneous injury, aspiration is the only treatment to be advised in the emergency. Later, with the appearance of fluid, the tear in the lung may become blocked, and the condition bettered. Then, if it seems advisable, one may resect a rib as in empyema, and drain, provided a reasonable certainty exists that the operation will not make matters worse.

One of our patients presented a large traumal opening; the other lung showed much consolidation and some cavitation; insertion of a trocar relieved dyspnea while aspiration was being carried on. But, when a larger trocar was left free in the chest wall so as to allow the free inflow and outflow of air, the patient became rapidly cyanotic. Aspiration was, therefore, practiced, because the patient, patently, was able to aerate sufficiently only with the torn lung in function. After the appearance of pus, dyspnea ceased and there was no further escape of air into the pleural cavity. Three weeks after the accident, the collapsed lung had expanded so that it could be felt with the aspirating needle as far down as the fifth space.

Emphysema may occur after frequent aspiration; this is not dangerous even if fairly extensive. It happens, sometimes, that the puncture opening through the thickened parietal pleura fails to close, and air escapes along the needle track into the subcutaneous tissues. The emphysema may extend (as observed in one or two cases) as far down as the scrotum and as high up as the forehead.

I believe that many of these cases (of spontaneous pneumothorax) pass unrecognized. Some receive a false diagnosis which is recorded on the death certificate, others recover spontaneously. This opinion is based on cases in which actual diagnostic error was found. It would seem that the mistakes made were due, in large measure, to the fact that sufficient weight was not given to the actual absence of voice sounds, absence of tactile fremitus, etc. Sometimes, what one does not hear during an examination is quite as important as what one does hear.

3. Bandelier and Roepke: Clinical System of Tuberculosis, New York, William Wood & Co., 1913, p. 230.

### AFTER-RESULTS

These cases may terminate with a bronchopneumonia of the good lung; the patients may succumb to the excessive intrathoracic pressure—fluid or air; they may recover spontaneously. In the latter event, the ultimate anatomic result will be, most likely, a collapsed lung, displaced viscera, and a contracted chest. Reexpansion of the damaged lung will occur, if at all, after a long time. Patients that have recovered not infrequently develop fair working capacity.

### DIAGNOSIS

The diagnosis cannot rest exclusively on any one sign or symptom; rather it rests on the correlated picture:

1. Pain is sudden (when present), followed by shock and (or) dyspnea and (or) cyanosis of varying degree. Instead of dyspnea there may be a gradual increase of respiratory frequency, with or without history of sudden onset; there may be no shock.
2. There may be lessened cough and expectoration.
3. There may be, as the first noticeable factor, the subjective uneasiness in the chest.

### SIGNS

Physical signs are much more constant and possible of correct interpretation than symptoms. One should notice, first, the dislocation of the heart. This mobile organ readily migrates to the right or left at the whim of almost any collection of air or fluid in the pleural cavities. Directed to a given side in marked degree, it may indicate a large amount of fluid or air in the opposite side. When a large cavity is present in the lung, the heart migrates to the same side, being drawn by adhesions. The position of the heart having been noted, auscultation of the lungs is begun, with especial attention to the suspected side. Should there actually be a large complete pneumothorax present, the respiratory sounds will be completely absent. There will be no vocal fremitus, or nearly none, no tactile fremitus. The opposed side may show some involvement, in sympathy, as it were, in that the respiratory sounds will be harsh. Percussion over the suspected side will elicit tympany, unchanged by closing the lips—in other words, the Wintrich sign is absent. Later, in the course of a few days or a week, when fluid will have accumulated, perhaps, a definite area of dulness, sharply bounded above by a level line, will be discovered. This level of the dull area shifts with each change of the patient's position; succussion, practiced by shaking the patient sharply by the shoulders, will produce an audible splash. When the patient is now placed in front of the fluorescent screen, the fluid level is easily made out, while waves produced by shaking the patient are easily seen. No difficulty will arise in making the diagnosis with the roentgen ray; at least, none should.

There will be, perhaps, some trouble in determining the diagnosis when the pneumothorax is partial; in such event the lung is partially bound to the parietes by adhesions, so that there may be, for example, an anterior pneumothorax with absence of respiratory sounds, while posteriorly râles and harsh breathing may be heard down to the base. Again, there may be a walled-off cavity of the upper lobe with adhesions in a zone half-way down the chest with a free pleura below. Careful examination cannot fail to clear up the situation. Another important point is the disappearance of

the liver dulness, the air having distended the fornices of the pleural cavity so that the liver is no longer in contact with the chest wall. Here, the plate or fluoroscope may show the diaphragm depressed.

COMMENT

In all cases of pulmonary tuberculosis, sudden pain after exertion, as coughing or other violent muscular exercise, should immediately challenge the attention of the physician. Again, dyspnea should never be regarded as an ordinary concomitant of pulmonary tuberculosis. Its advent should always be considered as an urgent indication for a complete survey of the chest. Spontaneous pneumothorax is far more common than is usually supposed.

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## SURGICAL CONSIDERATIONS OF GASTRIC AND DUODENAL ULCERS *

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OMAHA

Gastro-enterostomies performed for scar tissue obstruction of the duodenum and pyloric region are satisfactory procedures in the vast majority of instances. Obstruction by new growth or Nature's deposit of scar tissue was the original indication for the operation, the ulcer per se being of secondary importance. Since the advent of roentgen-ray interpretation, we are detecting ulcers before scar tissue obstruction occurs; but we have failed to recognize that ulcers with and without scar tissue obstruction are two very different conditions, requiring different types of surgical procedures. The small ulcer, without scar tissue obstruction, although itself composed mainly of scar tissue, produces delay through spasm, initiating the vicious circle which causes the distress. A gastro-enterostomy performed for this type of ulcer is the most empiric procedure in surgery, with a definite function and ultimate result unknown, causing no little concern after its application, as no one knows how the altered physiology will conduct itself.

In the successful gastro-enterostomies for ulcer, without scar tissue obstruction, the patient is immediately relieved of the former distress, while we know the ulcer has not had time enough to heal. This plainly tells us that, per se, the ulcer did not cause the distress, which was due to a vicious circle which was broken by the anastomosis, draining faster than formerly the irritating secretions into the jejunum. In other words, this unscientific procedure, producing indirect results for indirect symptoms, merely transferred the load from the stomach to the jejunum; from an acid, tolerable reservoir, to an alkaline, intolerable (to obstruction) rapid transit duct. If these transferred acids, which are secreted in lesser amounts soon after the vicious circle is broken, do not irritate the jejunal mucosa, the results of the gastro-enterostomy are then only indirectly successful.

The operation has been regarded as a specific for chronic ulcer; and surgeons have even concluded that it is never indicated, if a normal stomach and duodenum are present, owing to the disastrous results obtained when performed for extragastric lesions simulating ulcer. What caused the disaster, the absent ulcer or the remote pathologic condition simulating ulcer, has never been proved, and, to my knowledge, not even discussed. The operation is performed with the idea of curing the ulcer, which would leave us with an anatomically normal stomach and duodenum, the procedure soon producing a contraindication to itself, if our conclusions are correct. Chronic ulcers are cured or simply inactivated by this operation, which indicates, either that a normal stomach and duodenum are not contraindications to the presence of this anastomosis or that it is performed not with the idea of curing the ulcer, but merely as a comforting procedure by inactivating the ulcer. I have been unable to find a report of a gastro-enterostomy performed in a *perfectly normal, symptom-free patient*, but in such an instance, if the technic was proper and the duodenojejunum not obstructed, I can see no reason why it should cause any more discomfort than in a patient with an ulcer, without scar tissue obstruction.

### ANATOMY AND PHYSIOLOGY

The contracted lesser curvature of the stomach has left this proximal reservoir with one surface doubly concentrated from an anatomic and physiologic standpoint. This inequality of the curvatures must be given the most important consideration in all forms of gastric surgery. Perhaps further experience in the laboratory, such as Alvarez's,[1] may demonstrate the segmental activity of each curvature and their relationship, which will solve many problems of motility. We need more study on the motility of the whole gastro-intestinal canal and its segmental relationship, the secretions being of secondary importance.

The motile powers of the stomach, its most important function, represent a proper balance between propulsion and retention. The proper relationship between these two opposing characteristics is essential not only for gastric function, but also for the influence it has in promoting gastro-intestinal secretions for the more important intestinal digestion below. So strong are these propulsive and retentive functions that a gastro-enterostomy, even with its nonsphincteric opening and its drag on the greater curvature, does not completely do away with them.

The duodenum and upper jejunum resemble a duct, the roentgen ray demonstrating a rapid propulsion of their contents, which probably depends not a little on the *vis a tergo* (stomach), a rôle relatively simple as compared with the stomach. Therefore, the duodenojejunum, possessing only a single function of hypermotility, will not withstand the slightest degree of obstruction; while the stomach, possessing a slower motility and also a retentive function, withstands a greater degree. Troublesome gastro-enterostomies demonstrate this clinically.

The stomach lies high and transversely in the upper abdomen while empty, and the roentgen ray reveals it lying more or less vertically when filled, due to a marked descent of the pyloric region (Fig. 1). It is suspended at the esophageal opening and where the duodenum is first attached to the posterior abdominal wall. When the pyloric portion of the stomach descends after food intake, the weight bearing area is principally in the distal portion of the pylorus and the first portion of the duodenum, particularly the latter, resulting in considerable traction on this area. By means of fluoroscopy, it is seen that, while the patient is standing and swallowing barium emulsion, the lowest point of

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1. Alvarez, W. C.: Am. J. M. Sc. **158**: 609 (Nov.) 1919.

descent of the inferior border of the prepyloric region is generally from 2 to 4 inches below the umbilicus; whereas, during the operation the position of this area of greatest descent is usually immediately under the liver. The distance from this point to the one marked previously indicates its excursion, probably from 4 to 8 inches, which has placed more or less traction on the lesser curvature and first portion of the duodenum. I first called attention to this in 1916,[2] and since then I have confirmed this observation many times, one which must be made on the normal stomach and duodenum, the elasticity of which is greater. Gallbladder operations afford an excellent opportunity for such observation. After an ulcer has developed, there is a marked lessening in the descent of the distal portion of the stomach; the inflammatory condition doing away with the elasticity, a diagnostic probability.

The normal blood supply of the pyloric region, lesser curvature and first portion of the duodenum is comparatively less than that of the rest of the stomach, as demontrated by Reeves,[3] Wilkie [4] and W. J. Mayo.[5] In addition to this comparatively lessened vascularized area, the lesser curvature and duodenum, the mucosa is attached to the layers beneath, without the formation of rugae, no allowance being made for dilatation and traction, thus predisposing this area to traumatic or traction anemia.

These observations on the lesser curvature and duodenum, that is, its naturally smaller blood supply, more adherent mucosa, with few or no rugae, undergoing considerable traction for at least two hours after each meal, which further decreases this blood supply, suggest most strongly that we have here the predisposing causes for embolic infection, thrombosis, necrosis, or tissue digestion, which precedes ulcer; enhanced by the marked chemical and physical activity in this area. We know vascular anemia predisposes to ulceration and infection and also inhibits healing in any portion of the body. We find more ulcers in the laboring class, "non ptotics," who eat large meals, followed by immediate exertion, because their duodenums are more firmly fixed to the posterior abdominal wall, resulting in greater traction when the pylorus descends after filling. In those persons known as ptotics, we rarely find ulcer because there is less traction on the duodenum, it being less firmly attached to the posterior abdominal wall. The excursion, of course, in this type is greater, which must not be misleading. This idea of traction with the more firmly fixed duodenum may account for more ulcers in men, in whom less ptosis is found.

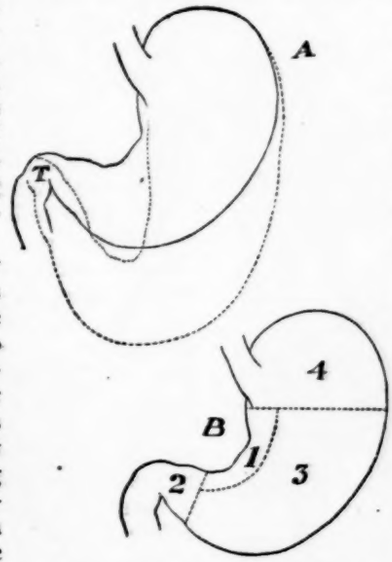


Fig. 1.—*A*, solid line, stomach in a transverse position while empty, the patient lying on the operating table; dotted line, stomach in a vertical position while filled, patient standing. The actual difference is greater than the drawings indicate. Traction at area *T* is quite evident. *B*, stomach divided into segments 1, 2, 3 and 4, indicating both the degree of ulcer symptomatology and relative frequency of occurrence.

### PATHOLOGY OF ULCER

We know very little about ulcers involving only the mucosa, as they have no known symptomatology and they present no external signs on the stomach or duodenum to indicate their presence. We have the most discussion about the chronic ulcer. It is the type which has invaded more or less the entire wall of the viscus, as shown by a heavy scar tissue deposit on the external wall, which serves to identify it during operation. It is apparently Nature's cure for an acute ulcer or area of necrosis by her deposit of scar tissue, and the only layer of tissue left, at times, in this scar, is the more or less destroyed muscularis. It should be termed a *scar tissue defect*. To obtain ideal healing, this defect must entirely disappear and all three coats unite perfectly, leaving a superabundant mobile mucosa, with an ample blood supply; a reaction quite difficult to produce by medical means or by a simple gastro-enterostomy. The ulcer persists long after the anastomosis is performed, as shown by one patient upon whom I operated three years later for a chronic cholecystitis; he having obtained perfect relief from the ulcer symptoms. Before removing the gallbladder I opened the duodenum and found just beneath the remaining scar a defect in the mucosa, about one eighth of an inch in diameter. The ulcer (defect) had merely become inactivated. It could never have healed properly in the sense of having all the coats united, until the scar tissue was removed, which I did before closing the duodenum. He has been symptom free for more than two years (to date), with a gastro-enterostomy on a quite normal duodenum and stomach. By removing the gastro-enterostomy without destroying the defect, I dare say his former symptoms would have recurred (reinfected defect).

Many duodenal and gastric ulcers are symptomless, as proved by exploration, because they have caused very little spasm (spastic obstruction) in the duodenum, or no incoordination (niche or segmental spasm) in the stomach, which resulted in a normal emptying. This idea of coordination without marked spastic obstruction, allowing for symptom-free gastric ulcers, may account for "idiopathic carcinoma," the much disputed, without vision, "preulcer carcinoma."

Duodenal ulcer produces less distress and less delay of stomach contents than gastric ulcer, because the gastric symptoms are due to a reflex from the spastic or organic obstruction in the duodenum, causing hypersecretions and hyperacidity above. The activity of the stomach remains coordinated, thus causing a more rapid emptying than normal, when the acids are combined with food; a well known clinical observation before organic obstruction supervenes. The acids, previous to this combination, irritated the duodenal defect sufficiently to cause a spastic obstruction and delay of the gastric secretions (hunger pain).[6]

Gastric ulcer produces more distress and delay of stomach contents, because both the disease and the reflex (of a more vicious character) are in the stomach. When one realizes that the lesser curvature and lower half of the greater curvature possess motile and retentive powers which equal those of the whole small intestine (both regions retaining food for about four to six hours), it is easily understood why a defect in this area

2. Roeder, C. A.: Nebraska M. J. **1**: 76 (Sept.) 1916.
3. Reeves, T. B.: Surg., Gynec. & Obst. **30**: 374 (April) 1920.
4. Wilkie, D. P. D.: Brit. M. J. **2**: 602, 1911.
5. Mayo, W. J.: Surg., Gynec. & Obst. **6**: 600, 1908.

6. The ulcer produces a spastic obstruction, aggravated by the increasing acidity, which produces a true vicious circle.

produces far more abnormal physiology than in the duodenum. The symptoms of gastric ulcer depend considerably upon its location; and the ulcer should be classified in this manner as its regional occurrence has a corresponding pathologic, physiologic significance (Fig. 2).

The elusive ulcer in the cardiac pouch, as compared to one on the lesser curvature, indicates that these variously located ulcers require various types of operations. An ulcer along the lesser curvature causes not only a marked spasm of the entire peristaltic portion of the stomach, as does duodenal ulcer, but, in addition, a compensatory segmental spasm (niche),[7] on the greater curvature. We have thus produced a loss of the segmental relationship between the lesser and the greater curvatures, the peristaltic waves resulting in incoordination between these two areas. This accounts for the greater delay, greater spasm and greater distress in gastric ulcer. A simple gastro-enterostomy cannot be expected to exert so favorable an influence over such a

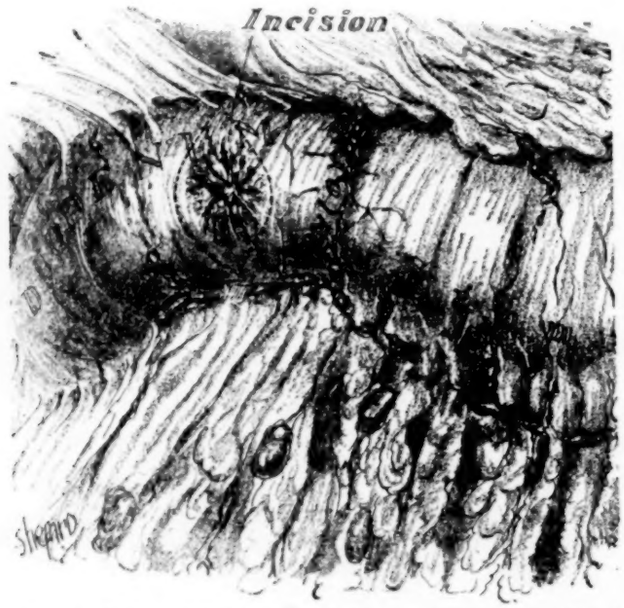


Fig. 2.—Outline of incision around the scar tissue defect, which is carried down to the mucosa. It is made transversely to the diameter of the duodenum to facilitate approximation of the outer coats. Approximation is much more difficult if the incision is made longitudinally. The duodenum should be mobilized as much as possible.

syndrome, as over the simpler duodenal ulcer. This is also borne out clinically. It leaves the defect, which keeps up its pernicious influence over the greater curvature and the remaining pyloric region; the latter, in addition, descending far below the anastomosis after food intake, dragging on this area and adding to the discomfort following the operation. Spasm probably came first, with hypersecretion following, as this is true with all forms of gastro-intestinal obstructions and, therefore, it would be the last to leave. The smooth recoveries after the Billroth and the Polya operations strongly suggest a more radical type of operation for ulcers of the curvatures and pylorus; not only to remove the pathologic condition, but to balance the physiology and to do away with a persistently spastic and dragging pyloric region.

7. The ulcer or defect on the lesser curvature results in a loss of contractile or conductive power of a certain portion of this concentrated area, which is compensated by a deeper wave (niche) on the opposite curvature. The corresponding segments on both curvatures can be studied in this manner, a study of which I shall report later.

This theory was suggested to me by two patients on whom I operated in 1917 who were well to date (1921); having in mind the comparatively concentrated anatomy and physiology of the lesser curvatures and the troublesome pyloric region before and after operation. In both cases, I resected the pylorus and antrum, followed by a Polya anastomosis, for ulcers in such proximity to the cardiac orifice, on the lesser curvature that a resection or even a Balfour cautery puncture were considered beyond good judgment for me to attempt. The excellent results obtained suggested that the pyloric region may be the most troublesome directly and indirectly before and after operations for gastric ulcer. Probably gastric surgery must become more radical, while duodenal more conservative whenever possible.

Every effort should be made to do away with a Wölfler gastro-enterostomy for ulcer without scar tissue obstruction, although it may be used as the first step in a two-stage operation to inactivate the ulcer, which can be resected with the anastomosis during the latter procedure. Clinical experience has taught me this, and it seems logical to attempt resection of a duodenal ulcer after a medical regimen of from two to three weeks, which produces inactivation oftener than cure. I doubt whether an ulcer in any situation, which is detected by its scar tissue on the peritoneal surface, can ever be perfectly cured by a gastro-enterostomy or any medical regimen.

The most satisfactory method of curing ulcer is by perforation or resection, exemplified by two recent cases of perforating duodenal ulcer, in which I performed secondary operations for postoperative hernia and an obstructed duodenojejunum, respectively. During the latter procedures, I explored the duodenums very carefully and could find no evidence of any disease; an ideal cure had apparently resulted in both. However, I could not determine the amount of residual scar tissue binding down the mucosa—a condition conducive to reulceration.

There are three types of duodenal ulcer requiring different surgical procedures: (1) The large ulcer with an abundance of scar tissue obstruction, relieved perfectly by a gastro-enterostomy. (2) The medium sized ulcer, with too much scar tissue or edema to allow for primary resection. Gastro-enterostomy works well here generally, and if later on troublesome symptoms develop, the defect may have become so inactivated that it can be resected with the anastomosis. (3) The small ulcer without sufficient scar tissue present to interfere with its removal. This is becoming the most common type, owing to earlier diagnosis, and often is successfully treated by a resection, without a gastro-enterostomy.

The operation for duodenal ulcers, described herewith, I have applied in the case of small ulcers which were not surrounded by dense areas of scar tissue or edema. I hope to apply it to inactivated ulcers brought about by a gastro-enterostomy or a medical regimen. A gastro-enterostomy is not added and the only accessory, which is most essential, *is a prolonged stay in bed, three weeks, with the foot of the bed elevated 6 inches,* beginning twenty-four hours after the operation; keeping the stomach high in the upper abdomen to avoid traction anemia, assuring thereby a good blood supply which in turn prevents scar tissue deposit, a predisposing factor for reulceration. The two outer coats are very carefully dissected off the adhered mucosa beneath, requiring a most painstaking technic, using delicate tissue forceps and a small bladed knife, not

too sharp. This dissection is made toward the defect in the mucosa, from various directions. The opening in the mucosa is closed with interrupted 00 chromic gut sutures, on fine curved needles, leaving the knots free in the lumen; and the third row is closely applied on top of the second. The mucosa must be *sutured separately and should never be involved in the sutures passing through the outer coats,* thereby insuring its ample blood supply. In this way we have a superabundance only of mucosa, and there is very little tendency to obstruct the lumen of the bowel, if the technic described is carefully followed. The slight encroachment on the lumen is of no significance, which one would expect from futile attempts to obstruct the duodenum and pylorus by various bands, etc. Portions of the pyloric sphincter muscle can be resected, if interfering with the coaptation of the two outer layers of sutures. Six patients have remained symptom-free for more than two years; they have been requested to avoid exertion immediately after eating, preferably lying down for one-half hour, increasing the time according to the weight of the meal. The reclining posture, so often desired, especially after large meals (drowsiness), is a physiologic plea for recumbency, which might be adopted by man with considerable benefit.

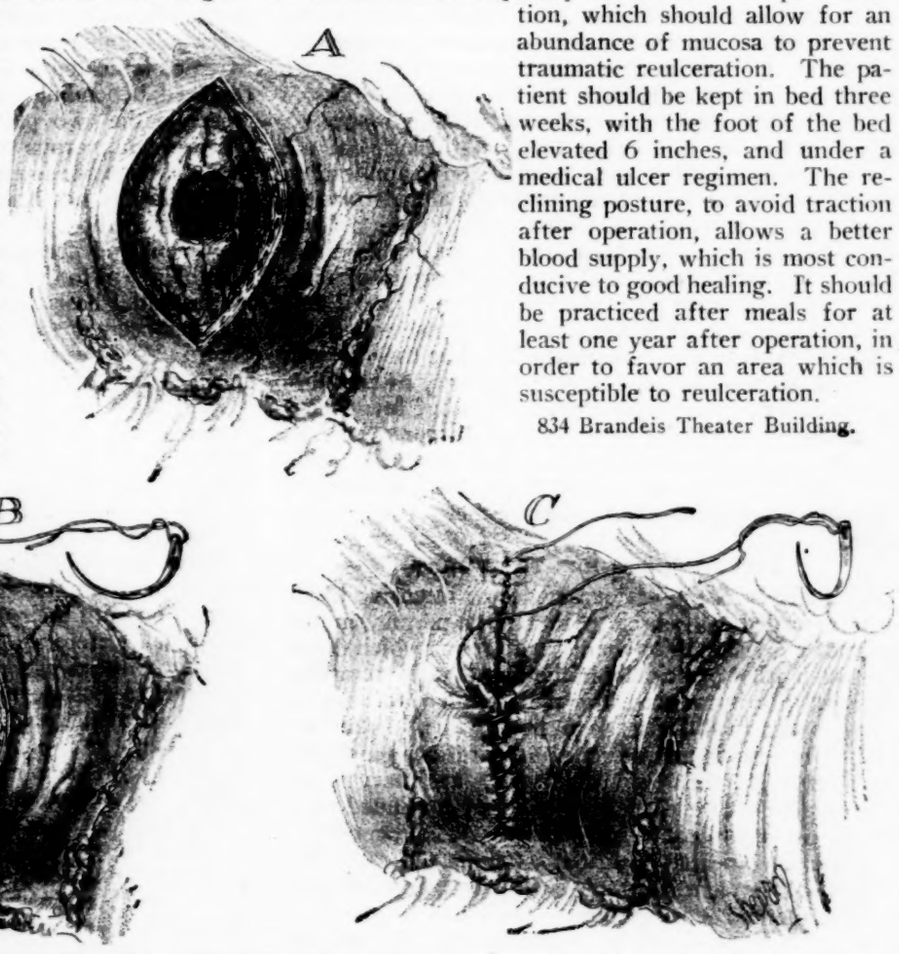


Fig. 3.—*A*, peritoneal and muscular coats dissected off the mucosa. Opening in mucosa represents crater of ulcer. This allows a superabundance of mucosa, not scar bound and with an ample blood supply. *B*, mucosa separately sutured, with knots hanging into lumen. Sutures started through outer coats, which must not include the mucosa. Fine, small, curved needles are preferable. The superabundance of mucosa left and the sutures only at the outer edge are the main points of the operation; a scar bound mucosa (preulcer) is thereby prevented. *C*, suture almost completed, with very little space between the two layers to avoid turning in too much tissue. Only one knot is required. Fine, curved needles are preferable. By avoiding the mucosa in the outer rows, its blood supply remains ample, and the lumen is not constricted.

### CONCLUSIONS

1. Coordination and incoordination are physiologic features not to be ignored in surgery of chronic ulcer.

2. Chronic ulcers should be termed "scar tissue defects," as they are not ulcers in the true sense of the word. They should be divided into ulcers or defects: (1) with organic (scar tissue) obstruction; (2) with spastic obstruction; (3) active (edematous or acutely infected), and (4) inactive (symptomless but potentially infected).

3. The classification of gastric ulcers might be revised into ulcers of the lesser and greater curvatures, of the terminal inch of the pylorus, of the anterior and posterior surface and of the cardiac pouch. Such classification bears more pathologic and physiologic significance, indicating better the type of operation necessary.

4. Gastro-enterostomies of the modified Wölfler types for ulcers without scar tissue obstruction are only indirect procedures for indirect symptoms and should be abandoned whenever possible. They are not directly curative nor a preventive type of operation, as proved by ulcers in the region of the anastomosis.

5. Early or small duodenal ulcers, without scar tissue obstruction, are frequently amenable to simple resection, which should allow for an abundance of mucosa to prevent traumatic reulceration. The patient should be kept in bed three weeks, with the foot of the bed elevated 6 inches, and under a medical ulcer regimen. The reclining posture, to avoid traction after operation, allows a better blood supply, which is most conducive to good healing. It should be practiced after meals for at least one year after operation, in order to favor an area which is susceptible to reulceration.

834 Brandeis Theater Building.

**Investigation of Canned Spinach for Botulism.**—For some time the food bureau of the Chicago Health Department has been conducting investigations as to the character and quality of canned spinach sold in the local market. During January there were twenty-five cases of illness with four deaths in Grand Rapids, Mich., supposedly from botulism from this source. It has been discovered that a carload shipment of canned spinach came to this market late in January from the El Monte Canning Company. This carload of spinach was packed in the fall of 1919, arrived in Chicago in February, 1920. It was sold to jobbers throughout the country, who afterward distributed it under their own labels. The health department laboratory has examined some of this spinach and so far has not found *Bacillus botulinus,* but many of the cans were what is known as swells. It is stated also that the canned spinach on hand at the Blodgett Hospital in Grand Rapids, where the cases occurred, was also found to be in this condition.

# ANTISYPHILITIC THERAPY

## A COMPARATIVE STUDY OF SOME INTENSIVE METHODS *

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NEW YORK

More than ten years' experience with modern methods in the treatment of syphilis has not, as yet, brought us to that much hoped for goal—a standard antisyphilitic therapy. This is true despite the fact that in the drugs arsenic and mercury we undoubtedly possess remedies that may be considered well-nigh specific. The difficulty lies in the fact that we still lack definite knowledge in regard to their most effective application, such application as will yield consistent and permanent results. Yet it cannot be denied that in the last ten years palpable advances have been made in this direction. The introduction of the arsenical group of remedies, coupled with the idea of *therapia sterilisans magna*, has given rise to the so-called intensive methods of syphilis therapy. These methods, while they vary in the mode of application, dosage, periodicity of administration and rest periods, comprise, with but few exceptions, the use of the arsenicals and mercurials, in association, since their associated use, it is held, yields results more satisfactory both from the clinical and serologic standpoint than when either is employed alone.

### INTENSIVENESS OF TREATMENT

An analysis of the various modes of intensive treatment recorded will disclose that they permit, in the main, of a division into two distinct groups which differ from each other principally in the fact that the remedies employed are introduced into the system with varying intervals and in different sequence. Thus, in the first group, the arsenic and mercury preparations employed are usually administered alternately at intervals of from five days to a week or more, and continued over definite periods to comprise a course. A course of this character is repeated as often as indicated. In this group the treatment is initiated with the mercurial, and it is the method more generally employed by the profession. It is necessary to emphasize the fact that in this plan of treatment the quantity of the arsenic preparation present in the body in a given period is not so large in amount as in the plan next to be outlined, and will therefore here be designated as the "less intensive plan." This method is essentially the chronic intermittent treatment suggested by Neisser, and has for its object the intermittent saturation of the body with the drugs.

The plan of treatment followed by the second group is more intensive in character in respect to the massing of the arsenic preparation. Here it is aimed by the introduction of this drug at much shorter intervals to produce continuous and intensive concentration of the remedy within a period of much shorter duration than in the former method, in order more thoroughly to saturate the system with the medicament in the hope of rapidly and completely eradicating the infection. While the treatment is likewise fortified with a mercurial, it follows the arsenic preparation in the course. Because this method is more intense in character as regards the arsphenamin concentration in the body, it will here be referred to as the "more intensive plan."

The sponsors of the first named group, to cite but a few, include such names as Neisser, Lesser, Hoffman and Fordyce, and the advocates of the second method are no less authoritative, although fewer in number, and count among them Scholtz and in our own country Pollitzer. The latter is identified with the now well known method, which is essentially a modification of Scholtz's and consists in the administration of full doses of arsphenamin or its analogues on three successive days, followed by a course of mercury; and this, in turn, after a suitable rest period, by additional courses as often as indicated and over as long a period as may be required, depending on the type and age of the infection.

While the two plans just outlined form the types there are numerous modifications. The fact that the modifications are so numerous sufficiently indicates that no single one has been generally accepted as the best. The best method will naturally be that which will yield consistent and permanently good results with the least possible harm to the patient. We take it that few have a substantial basis for making this claim for any plan that has been so far suggested to the exclusion of any other. We are accordingly not yet in a position to speak of the best method of treating syphilis.

It is fair to assume that, on purely theoretical grounds, the more intensive plan here referred to should prove the most effective clinically. Thus far, however, there have been no detailed clinical data recorded definitely to substantiate this assumption.

The value of the arsphenamin group of remedies as effective antisyphilitics is now no longer debatable; but, aside from their therapeutic effect, there is one fact in connection with their use that must constantly be borne in mind. Reference is made to the question of the toxicity of the drugs. That the arsphenamin group of remedies is not devoid of the possibility of serious harm is demonstrated by the various types of dermatoses, nephritis, encephalitis, neuritis and nitritoid reactions with their complications which are definitely known as arsphenamin by-effects. And one need hardly mention that there are a considerable number of deaths directly traceable to arsphenamin therapy. It must be admitted that toxic manifestations, whatever their nature, are more likely to result from larger doses frequently administered, as employed in the more intensive plan, as compared to smaller doses at longer intervals which is the method of administration in the less intensive plan. If, however, it can be demonstrated that treatment according to the more intensive plan yields results definitely superior to those obtained by the less intensive plan, it would be justifiable to take such additional risk as may inhere in the former method. So far as I know, an investigation along this line has not been made, and it is with the object of throwing some light on this question that the present study was undertaken.

### VALUE OF WASSERMANN REACTION

Whether or not the Wassermann reaction is accepted as a criterion of the cure of syphilis is not pertinent to the discussion, but it is believed that few will take issue with three statements concerning the reaction:

1. It is a characteristic reaction in syphilis, and may be regarded as a symptom of the disease.

2. Appropriate treatment, in early syphilis, invariably causes the reaction to lose in strength or entirely to disappear. This fact has been found to be so con-

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stant that it has weight as a diagnostic criterion of early syphilis.

3. In early syphilis, the Wassermann reaction is more resistant to treatment than any other symptom of the disease at this stage, and therefore it is the last to disappear.

If these statements are accepted, it is clear that the Wassermann reaction in early syphilis becomes the most valuable criterion of the efficacy of any plan of treatment. Its value in this respect is enhanced by the fact that in my experience the reaction in early cases of the disease does not materially vary from day to day if no treatment is administered, a fact which cannot be said to be true of syphilis in its later stages, treated or untreated.

It should be mentioned that the early cutaneous manifestations of syphilis are not suitable criteria for determining the value of any plan of intensive therapy, owing to the fact that such manifestations disappear with practically equal rapidity under any intensive plan of treatment.

## METHOD OF THE STUDY

To conduct this study properly it was necessary to choose: (*a*) Patients with recent infections, and only such as presented the early cutaneous manifestations of the disease. (*b*) Cases in which the Wassermann reaction had already become strongly positive (from three to four plus). This served the double purpose of corroborating the diagnosis, and as the criterion of the efficacy of the various plans of treatment with which we experimented. No case in which antisyphilitic treatment had been given before was included, in order that the question of prior treatment should not enter as a factor.

The study included 106 cases, all of which met the conditions just enumerated. The period of the disease in each case fell within the limits of time generally accepted as that of early syphilis. The majority were infections of from eight to sixteen weeks' duration, a few of four weeks and only one of twenty-eight weeks' duration. In this connection it should be stated that in the women patients it was not always possible to determine definitely the duration of the disease, but this was done with reasonable assurance of accuracy in the cases cited. In the men this information was, as a matter of fact, quite reliable. All the patients were adults. The ages ranged from 16 to 49; the majority, however, were between 18 and 30 years of age.

Blood for the Wassermann test was drawn in every case at weekly intervals throughout the study, and the experiment was concluded in a given case when two successive Wassermann reactions were returned as either negative or one doubtful and the other negative. It should be remembered that our object was to determine how quickly the Wassermann reaction becomes negative under various plans of treatment, and it was thought that an interval of a week between Wassermann tests would determine this with sufficient accuracy. It was found that when the Wassermann reaction became negative in a given case, it as a rule remained so for a period of several weeks at least, and further tests during this period were always found to be negative. Particular attention should be called to the fact that in this study we are not taking into consideration the ultimate outcome of these cases from either the clinical or the laboratory standpoint. This will form the subject of a subsequent communication.

The tests were performed in the laboratory of Mount Sinai Hospital and of the Department of Health, City of New York. Except in a very few instances, the series of tests in a given case were performed in a single laboratory. While there is a slight difference in the technic followed in the two laboratories, the results checked up in a large number of cases on a prior occasion showed very slight differences, so that discrepancies in Wassermann results could be eliminated.

Various brands of arsphenamin were employed. So far as the effect on the Wassermann reaction is concerned, it was found that it did not matter which preparation was used.

The dosage employed in the less intensive plan varied with the age, weight and sex of the individual. The average dose in the case of female patients was approximately 0.35 gm. of arsphenamin. In some cases a dose as large as 0.5 gm. and as low as 0.2 gm. was administered. In patients of the male sex the average dose was higher, being a little over 0.4 gm., and some receiving as high as 0.6 gm.

In the cases treated according to the more intensive plan, the arsphenamin administered per dose averaged higher in both the male and female patients, and the rules laid down by Dr. Pollitzer in his method of treatment were adhered to as closely as possible.

The mercurial preparations employed were the insoluble mercuric salicylate and mercurial oil (gray oil) in doses up to 2 grains. It did not appear that either preparation showed an advantage over the other with respect to their influence on the Wassermann reaction.

The majority were treated as ambulatory patients, but most of the cases in which the more intensive plan was employed were treated in the wards of the hospital.

## PLANS OF TREATMENT

1. The daily arsphenamin treatment (essentially the Pollitzer method) consisted in the administration of a course of three full doses of arsphenamin given on three successive days, and was followed by a course of six mercury injections given a week apart. The arsphenamin course was as a rule fortified by the administration of three additional injections at the end of the mercury course and was given either on three successive days or a week apart. Thirty-seven cases were treated according to this method. This is the type of the more intensive plan referred to in this paper.

2. Three or four arsphenamin injections were administered on alternate days followed by a course of six mercury injections, and this in turn by additional arsphenamin administrations, three, four or five in number, a week apart or on alternate days. Nineteen cases were treated in this manner. This, too, may be considered a type of the more intensive plan, and it is the method that has been in use for a number of years in the department of dermatology of Dr. Herman Goldenberg at the Mount Sinai Hospital.

3. The chronic intermittent method (Neisser) included the use of arsphenamin and mercury, which were given alternately, from six to eight arsphenamin and from ten to twelve mercury injections constituting a course. The arsphenamin injections were administered from five days to a week apart, and mercury was given in the interval. In this group there are fifty cases. This method of treatment constitutes the type of less intensive plan mentioned in this paper.

## RESULTS OF TREATMENT

With reference to the inquiry which prompted this study, namely, to ascertain which of the plans of treatment under consideration yielded the most satisfactory

results as judged by the Wassermann reaction, it was observed that this differed according to the period following treatment that was studied. Comparing the figures from the first to the ninth week inclusive, the most satisfactory showing is made with the treatment according to Plan 1, which demonstrated that during the ninth week there were 28 per cent. more negative Wassermann reactions obtained by this plan than by Plan 2, and 17 per cent. more than by Plan 3. As we proceed, however, week by week after the ninth week and up to the sixteenth week the advantage, though by a smaller margin, is in favor of Groups 2 and 3.

RESULTS OF TREATMENT WITH THREE PLANS

| Week During Which Cases Became Negative | More Intensive Plans — Plan 1 Number | Plan 1 Per Cent. | Plan 2 Number | Plan 2 Per Cent. | Less Intensive Plan — Plan 3 Number | Plan 3 Per Cent. |
|---|---|---|---|---|---|---|
| First | 0 | 0 | 0 | 0 | 0 | 0 |
| Second | 3 | 8 | 0 | 0 | 3 | 6 |
| Third | 1 | 3 | 1 | 5 | 2 | 4 |
| Fourth | 10 | 27 | 5 | 26 | 7 | 14 |
| Fifth | 4 | 11 | 1 | 5 | 8 | 16 |
| Sixth | 6 | 16 | 2 | 10.5 | 9 | 18 |
| Seventh | 2 | 5.5 | 1 | 5 | 6 | 12 |
| Eighth | 4 | 11 | 1 | 5 | 2 | 4 |
| Ninth | 5 | 13 | 2 | 10.5 | 2 | 4 |
| Tenth | 0 | 0 | 1 | 5 | 4 | 8 |
| Eleventh | 0 | 0 | 1 | 10.5 | 1 | 2 |
| Twelfth | 0 | 0 | 1 | 5 | 2 | 4 |
| Thirteenth | 0 | 0 | 0 | 0 | 2 | 4 |
| Fourteenth | 0 | 0 | 1 | 5 | 0 | 0 |
| Sixteenth | 0 | 0 | 1 | 5 | 2 | 4 |
| Twentieth | 2 | 5.5 | 0 | 0 | 0 | 0 |
| Totals | 37 | | 19 | | 50 | 106* |

If the rapidity with which the Wassermann reaction becomes negative is the controlling factor, without regard to other considerations in the ultimate cure of this disease, then treatment according to Plan 1, offering, as it does, the largest number of negative Wassermann reactions in the shortest period of time, should become the method of treatment to be preferred. But the question arises, Does the persistence of a positive Wassermann reaction for an additional period of a few weeks prove an impediment to the ultimate cure of the disease? This does not seem to us to be the case, judging from the study of numerous histories which indicate the rapidity with which the Wassermann reaction becomes negative had no bearing on the later recurrence of either clinical manifestations or the reappearance of a strongly positive Wassermann reaction.

Considering the results from the clinical angle, the work indicates that all three methods proved equally effective in causing a rapid disappearance of the clinical manifestations, and it did not appear that any one method showed an advantage over the others on purely clinical grounds. The disappearance of the eruption seems rather to depend on the character of the lesions than on the method of treatment, those of the papular type consuming a longer period in involution, regardless of the method of treatment.

Studied from the standpoint of the quantity of arsphenamin administered, it was found that the patients treated according to Plan 1 received an average of 1.9 gm. of arsphenamin as compared to 2.34 in Plan 2 and 2.2 in Plan 3. The smaller quantity required in Plan 1 is explained entirely by the time element that enters into play. In this plan, after the first three injections are given, which is done on three successive days at the onset of treatment, no further arsphenamin is administered until after the sixth week, whereas in Plans 2 and 3 in the period up to the sixth week, from four to six injections of arsphenamin will have been administered; and even though the quantity of arsphenamin in Plans 2 and 3 is smaller per dose than in Plan 1, the total quantity in the six weeks' period is greater.

In respect to the quantity of mercury employed, it was found that it was practically alike in all three plans, being 0.44, 0.47 and 0.45 gm., respectively.

As has been stated before, it seems fair to assume that the longer the interval between the arsphenamin administrations, within reasonable limits, the greater the safety of the method of treatment; and in view of the probability that the persistence of a positive Wassermann reaction for an additional few weeks plays but a negligible rôle, if any, in the ultimate cure of the disease, it would seem reasonable to conclude that the method of choice in the treatment of syphilis is in favor of the less intensive plan as outlined in this paper, for it is equally efficacious and certainly more safe.

### CONCLUSIONS

1. A study of 106 cases demonstrated that 80 per cent. of the early syphilitic patients treated by the modern intensive methods became negative by the tenth week; 98 per cent. by the sixteenth week, and 100 per cent. by the twentieth week.

2. As a general rule, it may be stated that the more recent the infection at the time intensive treatment is begun, the sooner the Wassermann reaction becomes negative. To this there are notable exceptions.

3. Since the clinical and serologic results are practically the same by all methods described in this paper, and since the margin of safety is in favor of the less intensive plan, it would seem justifiable to conclude that the less intensive plan should be favored as the method of choice in the treatment of syphilis.

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# APEX, HILUM AND LOWER LOBE LESIONS OF TUBERCULOSIS IN CHILDHOOD

## THEIR RELATIVE FREQUENCY*

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The subject of this paper has been purposely worded so as to deal with clinical rather than pathologic findings. I aim to discuss not where the initial lesion is found, but where it can first be detected by clinical methods of examination.

It is generally believed that in adults tuberculosis of the lungs is more often to be found at the apex, or slightly below the apex. This holds true after the age of puberty.

Does a similar situation occur before the age of puberty and in infancy?

### THREE SITES OF INFECTION

In discussing this question, I shall more or less arbitrarily consider three sites of infection, namely, the apex, the hilum and the lower lobe. These are not anatomic entities and are used rather loosely. In the term apex is included the upper part of the upper lobe. The term hilum is interpreted to include the parenchyma of the lung near the hilum, comprising a part

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of each of the lobes, and also the bronchi, blood vessels, lymph channels, lymph glands and pleura. The term lower lobe comprises that portion of the lobe not included in the hilum.

With regard to these three sites of infection, where do we find the most frequent lesions of tuberculosis in children?

Clinical experience demonstrates conclusively that apical lesions do not predominate in childhood as in adults. This is not only my own experience but that of the majority of clinicians, as is indicated by statistics.

Holt [1] states that the region near the root is especially prone to be involved, on account of its close association with tuberculous bronchial glands. Huebner [2] asserts that tuberculosis in childhood has its seat in the bronchial glands. MacGowan [3] thinks that in the great majority of cases the bronchial glands are affected earlier than the lungs, and Kerley [4] estimates that these glands are involved in about 97 per cent. of all pulmonary cases.

Necropsy findings lend support to this view. Aschoff [5] holds that the glands are the usual focus of tuberculosis in childhood. Holt [1] found the bronchial gland involved in 81.5 per cent. of cases; Still,[6] in 81 per cent.; Wollstein and Bartlett,[7] in 95 per cent., and Frobelius,[8] in 99.2 per cent.

Even Ghon [9] admits that the lung focus is practically always accompanied by tuberculous changes in the lymphatic glands. His figures give about 98 per cent. of involvement, and his protocols aptly point out that the gland lesion is very much greater than the lung focus. Thus, whether or not we believe that the lung focus is primary, we must accept the apparent fact that the outstanding lesion is at the hilum and assumes the greater prominence clinically.

Having concluded that the hilum is the most frequent site of clinical tuberculosis in the lungs of children, we have remaining the question as to whether the apex or base stands next in order of incidence.

Personally, I am convinced that by clinical methods tuberculosis can be demonstrated at the apex more often than at the base. The literature bears this out.

Holt [1] states that the upper lobe is more frequently affected than the lower, the percentage being about two to one. In Wollstein and Bartlett's [7] series, there were thirty cases of upper lobe involvement as compared to seventeen lesions in the lower lobe; this was in children averaging about 2 years of age. At the Chicago Children's Memorial Hospital, Austin [10] found that in twenty-six primary lung cases fifteen were in the upper lobes and five in the lower. Ghon's [9] figures show fifty-four for the upper, and thirty-eight for the lower lobes.

Clinical statistics, therefore, lead us to conclude that lower lobe tuberculosis is least frequent in childhood, apex involvement is somewhat more common, and the hilum is by far the most frequent site of the infection.

As to a comparison of the right and left sides, it may be stated parenthetically that the recognized preponderance of right-sided involvement, as seen in adults, holds true in children. This may be due to the more direct path into the right bronchus, as is usually suggested. Another factor, which is usually overlooked, may have an important bearing on this question, namely, the presence of an eparterial bronchial branch on the right side. This eparterial bronchus supplies mainly the right upper lobe and has no counterpart on the opposite side of the chest.[11] Coming off the main bronchus, several centimeters higher than any branch on the left side, it appears not unlikely that it would predispose the right upper lobe to aerogenic infections. It is perhaps also worthy of mention that the lymph channels in the region of the hilum are more prominent on the right side, and that the hilum glands on that side are usually found more enlarged than those on the left.[9]

### USCEPTIBILITY OF HILUM TO TUBERCULOUS INFECTION

It remains to be explained, if possible, the cause for the predilection of the hilum to tuberculous infection. Two main causes for this predilection are apparent, the one physiologic, the other anatomic. The physiologic cause is the lack of adequate immunity of the child to tuberculosis and the prominent part that the lymphatics are forced to play in the fight against the infection. The anatomic cause is the structure of the child's chest.

Before discussing these two causes in detail, it may be well to dispose of two other considerations which might appear as causative factors, namely, the type of invading organism and the mode of infection.

There are two types of tubercle bacilli in childhood infection, the human and the bovine. The bovine bacillus is more commonly found in abdominal tuberculosis and in involvement of the glands draining the mouth and throat.[12] It is probable that in pulmonary lesions the invader is almost always the human type, as is the case in adult infection. If this is true, we are dealing with the same organism in children as in adults, as far as the lung lesions are concerned, and we can ascribe no influence for predilection to the type of organism.

The mode of infection might well seem to have some influence on the location of the lesion. At first thought it would seem likely that a tubercle germ, entering a bronchus by way of the trachea, might lodge in a different place than one entering the lung by way of the intestinal tract. Yet on second thought, this is not so evident.

There are two main portals of entry open to the invading organism: One is the respiratory route and the other is the alimentary canal. According to Birch-Hirschfeld,[13] the bacillus enters the air passages and comes to lodge in a bronchiole. This is the basis of the exhaustive studies by Parrot,[14] Kuess,[15] Albrecht,[16] and Ghon,[9] to show that the primary lesion is in the lung and that the lymph glands are secondarily affected. The other method is championed by von Behring,[17] who believes that the bacillus enters by way of the intestine, and sooner or later reaches the thoracic duct and passes

1. Holt, L. E.: Diseases of Infancy and Childhood, Ed. 6, New York, D. Appleton & Co., p. 1023.
2. Huebner: Lehrbuch der Kinderheilkunde **2**: 310, 1906.
3. MacGowan, J. C.: Brit. J. Tuberc. **12**: 145 (Oct.) 1918.
4. Kerley, C. G.: The Practice of Pediatrics, Philadelphia, W. B. Saunders Company, p. 359.
5. Aschoff, A.: Pathologische Anatomie, Ed. 3, **2**: 321, 1913.
6. Still, quoted by Kerley, C. J., Footnote 4.
7. Wollstein and Bartlett, F. H.: Am. J. Dis. Child. **8**: 362 (Sept.) 1914.
8. Frobelius, quoted by MacGowan, J. C., Footnote 3.
9. Ghon, A.: Primary Lung Focus in Children, New York, Paul B. Hoeber, 1916, p. 95.
10. Austin, R. S.: Personal communication.
11. Eisendrath, D. N.: Textbook of Clinical Anatomy, 1903, p. 507.
12. Park and Krumweide, quoted by Holt, L. E., Footnote 1, p. 1021.
13. Birch-Hirschfeld: Deutsch. Arch. f. klin. Med. **64**: 58, 1899.
14. Parrot, quoted by Ghon, A., Footnote 9.
15. Kuess, G.: De l'heredité parasitaire de la tuberculose humaine, Paris, 1898.
16. Albrecht, H.: Wien. klin. Wchnschr., 1909.
17. Von Behring: Tuberkulosebekaempfung, Marburg, 1903.

by way of the right side of the heart to the lungs. It is supposed that the bacillus lodges on the endothelium of the blood vessel, but soon becomes extravascular because the capillaries become occluded and obliterated.[18] Thus the lymphatics would become the chief means of extension in this process, as in the aerogenic method of infection. It is, therefore, not clear that the mode of infection would greatly influence the predisposition of any site to infection.

Let us consider, then, the physiologic factor, in the predilection of the hilum in the tuberculosis of childhood. The infant has little or no immunity to tubercle toxin,[19] and offers only slight resistance to the development of the infection. The bacillus can penetrate easily and spread rapidly. The lymphatics carry the infection to the nearest lymph gland and then to other glands in the chain. Thus an early involvement of the hilum is inevitable in most cases. Because of the low immunity and poor resistance the lymph glands are open to invasion and the hilum glands become extensively involved.

The second cause is anatomic, and explains why the child's apex is not so often involved as the adult's. At birth the chest is roughly cylindric, the anteroposterior diameter being approximately equal to the transverse. The sternum lies farther forward and higher toward the neck. The position of the clavicles is high, and the neck looks short. The ribs run more nearly horizontally, and the plane of the upper inlet of the chest is almost horizontal. This topography allows the lung apex greater freedom of excursion and also modifies its shape. The infant's lung has more of a dome shaped apex than the adult's and does not rise appreciably above the clavicle.[20]

The lower portion of the infant's chest also shows some differences. The diaphragm has not yet fully completed its descent and lies relatively high, and it is pushed up by the liver which is disproportionately large in the child. Thus, the longitudinal diameter of the chest is short, and is capable of good aeration through means of diaphragmatic breathing, which is the type found in children.

The development of the chest as the child grows in stature is detrimental to the lung apex. The spine grows faster than the sternum so that the upper inlet into the chest is tilted forward and the sternum comes to lie lower and closer to the spine. The first rib is pulled down at its sternal junction, and the lung is pushed up through the inlet so that it rises above the clavicle.

Schmorl[21] has pointed out that a groove may be formed across the lung from pressure of the first rib, and that when this is present, apical tuberculosis is usually found on that side. Abnormally short first ribs are known to be associated in the same way with apical lesions. And early calcification of the costal cartilage may be a predisposing factor to tuberculous infection (although Pottenger holds that the calcification is not a cause but a result of the tuberculosis). Bacmeister[22] induced apical lesions in animals by constricting the apex with a wire and introducing the bacilli by injection into the peritoneal cavity.

The picture in miliary tuberculosis also throws some light on the predisposition of the apex. Being of hematogenic origin, the tubercles ought to be equally distributed throughout the lungs and are found so on examination. But the development of these tubercles may not be uniform. In the more acute cases, there is usually no differentiation in the different lobes, but when the disease is less quickly fatal, the tubercles are sometimes found to be larger in the upper part of the chest. This has been described in roentgen-ray findings during life[23] and at necropsy.[5]

The rationale, therefore, of the predilection of tuberculosis for the apex is that the apex is so encased in its bony framework that there is no complementary space available for expansion and that the limitation of mobility is relatively close. The limitation of excursion inhibits not only a proper aeration but also the "ebb and flow" of the blood and lymph. This interference with the circulation favors the development of infection.[5] Such a condition is present, to a greater or less extent in the normal adult chest, but is not normally found in infancy.

### SUMMARY

From this evidence, then, it appears probable that we have in the young child a physiologic cause which predisposes the hilum of the lungs to tuberculous infection, namely, the low resistance to tubercle toxin and the consequently greater dependence on the lymphatic system to combat the infection. On the other hand, we have an anatomic cause for the comparative immunity to infection of the lung apex, in the greater respiratory excursion and freer circulation in the child as compared with the adult.

In accordance with these phenomena, we find that in the child tuberculosis may be diagnosed most frequently at the hilum, the apex being next in frequency, and the base least often.

Metz Building.

18. Adami, J. G., and Nicholls, M. A.: The Principles of Pathology 2: 307, 1908.
19. Fishberg, M.: Pulmonary Tuberculosis, 1919, p. 389.
20. McClellan, G.: Regional Anatomy, 1894, p. 265, and Aschoff, A., Footnote 5.
21. Schmorl: München. med. Wchnschr. 48: 1995, 1902.
22. Bacmeister: Die Entstehung der menschlichen Lungenphthise, Berlin, 1914.
23. Holmes, G. W., and Ruggles, H. E.: Roentgen Interpretation, Philadelphia, Lea and Febiger, 1919, p. 137.

## SURGICAL OPERATIONS ON AGED SUBJECTS

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The cases listed in the accompanying table comprise the sixteen oldest patients in my service at the Army and Navy General and other hospitals in Hot Springs, Ark., operated on over a period of one and one-half years. Most of them were veterans of the Spanish-American and Civil wars.

Ether was administered by the drop method in all cases. There was no operative mortality, but in Case 7, pneumonia supervened, causing death twelve days after the second stage of suprapubic prostatectomy.

The average age of these patients suggests that senility may not be a bar to surgical procedure as often as is commonly supposed, and that certain physical defects in old age are remedial without the high mortality rate anticipated by many.

My experience with these old men inclines me to the belief that aged people are often passed by who may be salvaged without more than ordinary surgical risk, and that disaster in such cases is often born out of delay and compromise.

Careful preoperative scrutiny, speed in the operating room, and painstaking after-treatment will reduce risks

which are derived from cardiorenal defects and other concomitants of age. I believe that the anhedonia of senility probably eliminates those surgical risks common in younger patients which grow out of fear and anxiety; indeed, old men appear to face the issues of a surgical operation with extraordinary calmness and

DIAGNOSIS AND OPERATION IN SIXTEEN CASES

| Case | Diagnosis | Operation | Age |
|---|---|---|---|
| 1. | Cholelithiasis | Cholecystotomy, drainage | 76 |
| 2. | Hydrocele, huge | Radical cure, excision sac | 67 |
| 3. | Carcinoma, prostate | Prostatectomy, suprapubic (one stage). | 75 |
| 4. | Hernia, inguinal | Bassini, radical cure | 57 |
| 5. | Tuberculosis, elbow joint. | Amputation, upper arm, middle third. | 50 |
| 6. | Hernia, inguinal | Bascini, radical cure | 77 |
| 7. | Hypertrophy, prostate. | Prostatectomy, suprapubic (two stage). | 78 |
| 8. | Carcinoma, pyloric | Gastro-enterostomy, posterior | 47 |
| 9. | Appendicitis, abscess | Appendectomy, drainage | 51 |
| 10. | Hypertrophy, prostate. | Prostatectomy, suprapubic (two stage). | 76 |
| 11. | Hernia, inguinal, strangulated | Herniotomy, modified Bassini | 81 |
| 12. | Hernia, inguinal | Bassini, radical cure | 80 |
| 13. | Hernia, umbilical | Radical cure, Mayo | 75 |
| 14. | Hernia, inguinal | Bassini, modified | 76 |
| 15. | Hernia, inguinal | Bassini, radical cure | 59 |
| 16. | Carcinoma, pyloric | Gastro-enterostomy, posterior | 68 |
| | | Average age | 67.06 |

fortitude, and they are docile patients during the postoperative period.

I believe that senility as a contraindication to surgical operation is made applicable too generally, and that there are times when art may triumph over finely drawn scientific dictates.

# THE SALEM, OHIO, TYPHOID EPIDEMIC

## A CLINICAL REPORT

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So few large epidemics of typhoid fever occur at the present time, that a brief outline of the conditions that existed during the Salem, Ohio, epidemic, and a general description of the clinical features, are matters of interest.

With a total of 882 cases occurring within a period of three months in a city of 10,305 inhabitants, this epidemic should awaken the profession to the fact that typhoid fever is not to be spoken of in the past tense. It should stimulate physicians to take a more active interest in local problems of sanitation, for the health officials declare that Salem is neither better nor worse from a sanitary standpoint than the majority of cities of its size. Evidently, then, water-borne epidemics of typhoid fever can and in all probability will occur again unless measures are taken to guard against contamination of water supplies and improper methods of sewage disposal.

This epidemic also emphasizes the need of closer cooperation between physicians and health departments. Had such cooperation existed in Salem, the health department might have realized the gravity of the situation sooner and taken precautionary measures more promptly; for in Ohio, enteritis is not a reportable disease, and several hundred cases occurred in Salem before the health commissioner was notified. If physicians would report to the health department the occurrence of any unusual number of cases of an epidemic disease, preventive measures could be applied at the most effective time.

### HISTORY OF THE EPIDEMIC OF ENTERITIS

Begining about the middle of September and continuing well into October (1920), Salem was in the grip of an epidemic of enteritis which affected at least 65 per cent. of the population. Most of those affected were only temporarily incapacitated by the diarrhea and vomiting, while many suffered only the inconvenience attendant on these symptoms of the ordinary mild attack of enteritis. However, a considerable number had headache, pain in the back, aching muscles and an elevation of temperature ranging from 99 to 101 F. for from twenty-four to forty-eight hours. This group had a convalescent period of from two to three days. Two circumstances illustrate the high degree of pollution of the public water supply:

1. The football team of South High School, Youngstown, played in Salem, October 9, and drank the water. Within thirty-six hours every member of the team had a severe enteritis. One member took to bed, October 23, and had a typical course of typhoid.

2. A resident of Salem took his family for a motor trip, October 10, taking along a bottle filled with tap water. After a few hours his mother-in-law joined the party and drank a cupful of the water. Within thirty-six hours she had a severe and prostrating enteritis, accompanied by vomiting and elevation of temperature.

### SOURCE OF THE EPIDEMIC

The epidemiologic investigation revealed the almost universal incidence of enteritis, which could be accounted for only by a pollution of the public water supply. Samples of water taken from a number of points on the distribution system showed gas within a few hours. Samples of water from the wells which furnish the city's supply showed no contamination. Evidently the pollution was taking place at some point in the collecting or distributing systems. Immediate chlorination of the entire water supply was instituted.

The public water supply of Salem is derived from three widely separated groups of drilled wells. Water from these sources flows by gravity to a central system of reservoirs from which it is pumped to all parts of the city. The pipe line from one of the group of wells was laid twenty years ago and is of vitrified tile, while the lines from the two other groups are of the usual cast-iron type. By a process of elimination it was found that contamination was confined to water in the tile line, which was immediately cut off. The number and virulence of the typhoid organisms entering the tile line was probably small at first, as the epidemic of typhoid fever built up gradually and did not reach its peak until November 1.

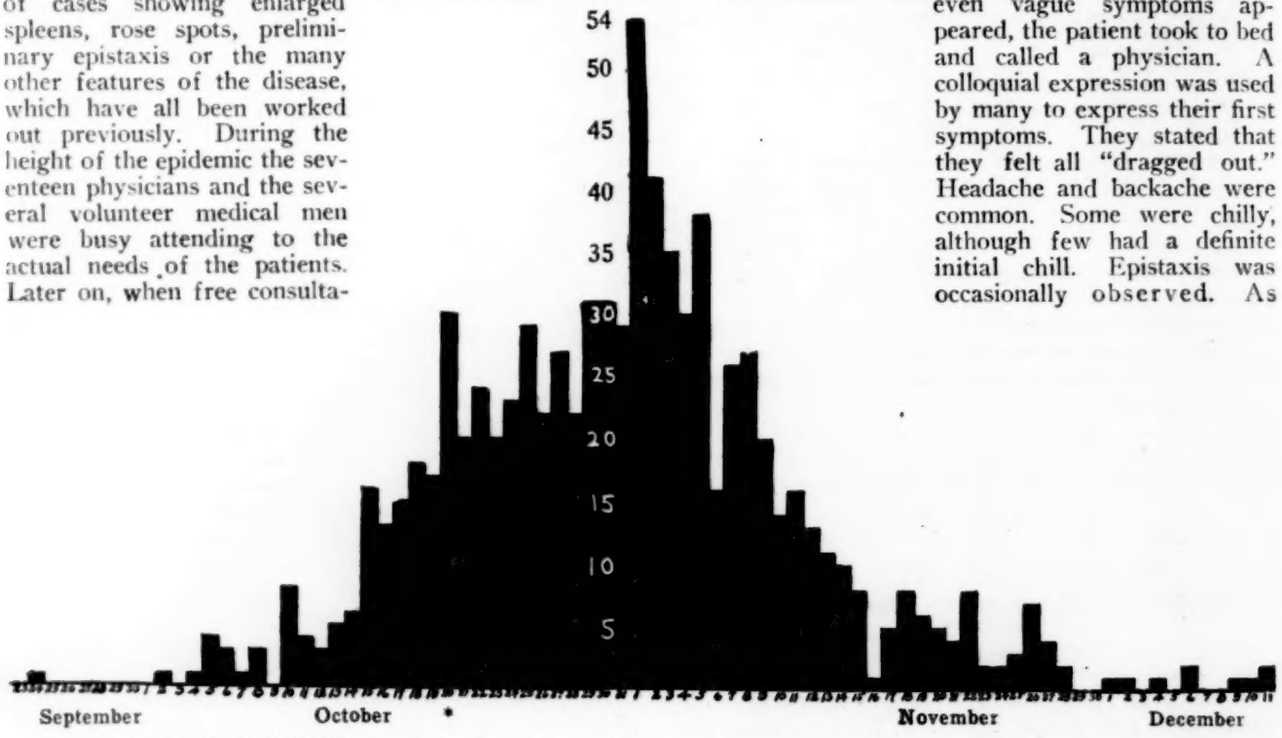
October 20, when the public water supply was chlorinated, only four cases of typhoid fever had been reported. Many people were sick, but the differential diagnosis between the protracted form of enteritis and beginning typhoid was not easy. Within a few days, however, typical cases of typhoid began to appear by the score. The state department of health soon had a large force in the field, and a representative from the United States Public Health Service arrived. These officials took charge of the situation and put into effect every possible measure to prevent the further spread of the disease. As part of their program, the services of consultants were secured, and Dr. Henry A. Christian and the writer spent a considerable time in Salem doing this work.

### CHRONOLOGY OF THE EPIDEMIC

The accompanying chart shows the rise and fall of the epidemic. The number of cases increased gradually until November 1, when the peak was reached. The decline followed rapidly, and few secondary or contact cases occurred.

### CLINICAL ASPECT OF THE CASES

The opportunity of seeing several hundred cases of typhoid within a few weeks occurs only once in a lifetime. It is obviously impossible to make a clinical report from an exact statistical standpoint, in an emergency of this kind when every one is overworked. It requires excellent hospital and laboratory facilities to do this accurately. No attempt was made to list the proportion of cases showing enlarged spleens, rose spots, preliminary epistaxis or the many other features of the disease, which have all been worked out previously. During the height of the epidemic the seventeen physicians and the several volunteer medical men were busy attending to the actual needs of the patients. Later on, when free consultation was made possible through a state appropriation, definite records were kept. However, only general impressions will be given in this report.




Incidence of typhoid: Each black block represents a case of typhoid fever charted on the basis of the day the patient went to bed. At the point marked by the asterisk, the water was chlorinated.

The incubation period averaged fourteen days. This conclusion is deduced from the fact that the greatest concentration of typhoid organisms in the water occurred, October 18 and 19, the two days previous to the chlorination of the water. From this time until November 1, the day on which the greatest number took to bed, is just two weeks. Further proof is found in the case of the high school football player mentioned, who took to bed just fourteen days after definite exposure.

Clinically, most of the patients presented the typical ear marks of typhoid. A few patients in the earlier stages had quite an irregular temperature curve, and in the absence of an epidemic, the cases might not have been diagnosed. Early bronchitis offered a problem in differential diagnosis; "typhoidophobia" was prevalent, but the most difficult cases to rule out at the beginning were those in which there was a reaction from the first dose of the triple (typhoid and paratyphoid) vaccine. The local reaction, aching muscles and, of course, duration were the criteria which fixed vaccination reaction as the diagnosis. There were many cases of this type; for as soon as it was evident that an epidemic of considerable size was inevitable, all inhabitants were advised to be vaccinated. This was thought justifiable even though the individual might be more susceptible for a few hours or days (the negative phase) after the injection. It is logical to deduce that this wholesale vaccination was responsible in part for the surprisingly small number of contact cases.

In general, the onset was gradual. Before it became generally known that a typhoid epidemic was developing, many of those affected stayed up, thinking that they had only enteritis. As soon as the true cause became known there was a psychologic change. Then, as soon as even vague symptoms appeared, the patient took to bed and called a physician. A colloquial expression was used by many to express their first symptoms. They stated that they felt all "dragged out." Headache and backache were common. Some were chilly, although few had a definite initial chill. Epistaxis was occasionally observed. As might be expected, enteritis was a common first complaint. The temperature curve did not gradually rise to a high level and remain there, but showed a tendency to considerable variation, in many cases reaching from 103 to 104 F. within a few days and then dropping almost to normal within a few hours. The curve would then ascend, reaching a higher point than any previous time, to remain there or take another drop in a day or so. The pulse followed the temperature closely during this period. These drops, expected during defervescence, were often accompanied by diaphoresis. This peculiarity in the temperature records, coupled with the fact that there were many mild cases, suggested that paratyphoid might be the cause of the epidemic. This idea was dispelled by positive blood cultures (pure typhoid being isolated), positive agglutination with *B. typhosus,* and the course of the disease.

Second week symptoms were, on the whole, quite typical. An occasional case presented the unusual symptom of hematuria during this period. Some of this was probably produced by hexamethylenamin, which was used rather generally. However, it occurred in some cases without demonstrable cause.

From the beginning of the third week on it is estimated that about one third of the cases presented a striking departure from the usual textbook picture in that enormous swings in temperature occurred daily or every two to three days; not the swings which one is accustomed to see during the later weeks of typhoid, but differences of from 6 to 8 degrees Fahrenheit between the morning and evening temperatures. For example, a patient would have a rather steady temperature averaging between 103 and 104 F., when suddenly there would be a quick drop of several degrees. The patient would have profuse diaphoresis, followed by chilliness or even a shaking chill, and go into a condition of real collapse. The reaction from this state was slow; but when the patient came up, he seemed to be no worse for his experience. This phenomenon might occur only once, although two or three times was the average. Occasionally a patient would seem to acquire the habit, and these pseudocrises would continue daily for a week. It will be obvious that many anxious hours were spent with this type of case. These grave symptoms occurring in a patient during the third week looked as though there were some abdominal emergency; however, the flat abdomen and the slowing pulse were reassuring, so that later these symptoms were taken as a matter of course.

Another feature worth mentioning was the frequency of a transitory rise in temperature during convalescence. A patient who had had normal temperature for a week or more would have a sudden elevation to 102 or 103 F., lasting for a period of two or three days. These flurries were probably due to the instability of the heat-regulating apparatus partially paralyzed by the toxin of the disease. These patients felt no discomfort, not even being aware that the temperature was above normal. Unquestionably, fecal impaction caused some brief recurrences of fever. In these it was surprising how quickly the temperature came to normal after an instillation of oil into the lower bowel or the cleaning out of the rectum by means of the gloved finger.

## COMPLICATIONS

So true to form did the complications hold that to do much more than list them would be merely a recital of the chapter on typhoid complications taken from some textbook of medicine. Altogether there were twenty-one different complications recorded, some of them occurring several times. The more interesting ones will be briefly discussed.

Intestinal hemorrhage was common and repeated, but was not given alone as the cause of death.

Perforation was reported in three cases, with one operation.

Otitis media, parotitis, peripheral neuritis, tender toes, mastitis, erysipelas, furunculosis, bronchopneumonia, lobar pneumonia and phlebitis were all seen more than once.

On two different occasions one patient (Mrs. L.) in the fourth week of her disease showed, in addition to peripheral neuritis, definite signs of tetany. The infolding of the thumbs and spasticity of the arms persisted for about an hour on each occasion. The patient had a protracted course, but recovered completely.

Several patients were seen who, as a complication during the course of the disease, had a severe involvement of the myocardium. In one case in particular the heart area extended from three fingerbreadths to the right of the sternum to well outside the left nipple line. It is interesting to note that these patients had an uninterrupted convalescence with no signs or symptoms of cardiac involvement at the time of discharge.

I wish to add to the list of the complications of typhoid one which I believe has not heretofore been reported. Charles M., a patient of Dr. Derfus, had been ill for six weeks with a high continuous temperature, palpable spleen and distended abdomen. He had some evidence of meningeal irritation, being very querulous and showing distinct negativism. On the forty-second day of the disease, without any change in the other symptoms, edema of the left eyelid was observed. The upper lid became distinctly puffy and thickened. Further examination showed that there was definite exophthalmos of the left eyeball. It was feared that the pressure would destroy the sight of that eye; but in thirty-six hours the edema disappeared, and the eyeball returned to its normal position, with no impairment of vision. This unilateral proptosis, a rather rare condition under any circumstances, was thought to be due to a thrombus in the postorbital veins. It probably had no more significance than a thrombus found in any other part of the body during the course of typhoid fever.

The effect of typhoid on pregnant women was noted. Three full-term normal babies were born to women ill in bed with the disease. One eight months baby was born on the third day of the mother's sickness. One woman came to full term on the twenty-fifth day of her illness, and gave birth to a normal child. Several women from two to seven months pregnant went through the disease without any unusual symptoms.

## TREATMENT

Very few drugs were used. Phenol salicylate (salol) in 5-grain doses three times a day was ordered by nearly every physician, and hexamethylenamin in like dosage was commonly employed. Antipyretics seem to have had little or no place. For marked restlessness, opium was the standby. During active hemorrhage, unless the patient was excited or tossing about, no medication was used.

There was a difference of opinion as to the value of transfusion of fresh blood. It was of evident benefit in some very toxic cases, but of doubtful value during or immediately after active hemorrhage. The question as to whether the blood pressure is raised enough by this measure to cause more bleeding in a patient who is already bleeding was not answered. There is no doubt that this procedure is of help at a later period to those patients who have anemia resulting from the loss of blood through intestinal hemorrhages. Blood transfusion by means of the Kimpton-Brown tubes was performed in eleven cases, the donors in most instances being relatives of the patient.

To insure a clean intestinal tract, daily enemas of either physiologic sodium chlorid solution or soap suds was the method employed. During convalescence, liquid petrolatum by mouth seemed to be effective.

Many methods of hydrotherapy were used to reduce temperature. Since the individual reaction seems to vary greatly, no one method can be said to have been the most effective. The soothing sponge with very hot water appeared to be especially suitable for children and the aged, while the young, vigorous adult got more benefit from the cold sponge bath administered with considerable friction. In many patients the cool, soppy bath with light friction brought the temperature down 2 or 3 degrees.

The feeding of the patients offered one of the most difficult problems of treatment. Most of the patients got enough fluid, none too much; but because of the popular belief that only fluids should be given, it was very difficult to supply the caloric needs of the individual. This condition was largely remedied as soon as the attending physician could convince the family that such foods as soft cooked eggs, soft toast, cereals, scraped steak and baked apple pulp, in fact, any of the ordinary soft foods, could be given with perfect safety if begun early in the disease; these of course to be given as adjuncts to milk and its modifications, which formed the basis of the diet. There was a striking difference between the patient who was receiving 3,000 calories plus, and the emaciated chap in the next bed who was getting barely a thousand. The former, after his temperature had been normal about a week, was able to be around; the latter was slow in regaining his strength. It is my impression that complications were as frequent in the well fed as in the other, but that the well nourished individual took care of his better. Some patients would not take food, no matter how attractively served.

Unfortunately, this type often ran a protracted course and was terribly emaciated when the temperature finally reached normal. The arrangement of the beds in rows in the Red Cross emergency hospitals offered a good opportunity to compare patients. It was nearly always possible to pick out the patients who were drinking enough water and getting plenty of nourishment. They were more alert mentally, did not have the dry tongue and sordes, and were for the most part not emaciated. It was easier to get the ward patient to drink water than it was the private one, for the spirit of competition could be made to enter into the situation in the ward. This was especially true on the male side, in which quantities of water drunk and urine passed could be compared.

The phase of treatment about which one can be enthusiastic was the wonderfully effective nursing care that more than 95 per cent. of the patients received. Salem was very fortunate in getting plenty of nurses early in the epidemic. There were during the most active time nearly 300 nurses on duty, some doing private duty, many in the hospitals, and a sufficient number working as visiting nurses to provide adequate attention at least once daily to every patient in the city who needed aid. If the physician advised special day and night care, it was provided. When the family could not afford this necessity, the ever present Red Cross paid the bill. Four emergency hospitals were established by the Red Cross which all patients were urged to enter. This centralized the work, made sanitation easier, and materially decreased the labor of the local physicians. In these hospitals the regular army cots were placed on boxes which raised them to the height of the ordinary hospital bed. Each nurse had charge of three female or four male patients. Each physician had the privilege of treating his own patients in these institutions. In order that treatment might be made as simple as possible for the nurses, the patients being attended by any one physician were grouped so far as practicable. The records kept by the nurses at the hospitals and in the homes were a distinct aid to the busy physicians. It was also very gratifying to see tidy beds, clean backs, flat abdomens and mouths free from sores which all bespoke proper nursing. It is worth recording that not one sore back due to inadequate attention was observed.

### MORTALITY

Of the factors responsible for the remarkably low mortality of 2.8 per cent., excellent nursing care stands preeminent. This is a definite fact which it is possible to grasp; on the other causes responsible we can only speculate. Did the preliminary enteritis due to sewage containing few or no typhoid organisms from which most of the patients suffered confer some degree of resistance? Could it be that the infection was received in small, diluted doses? It is estimated that 6 per cent. came down with the disease after the first dose of vaccine. Did this cut down the mortality in this group?

The most important definite fact which we gather from this epidemic is that connected with the effectiveness of antityphoid inoculation. On the age incidence chart kept by the state epidemiologist, Dr. F. G. Boudreau, a discrepancy was found on the male side between the ages of 20 and 30. In seeking an explanation for this, statistics on the number of ex-service men in the town were collected. It was found that among the 210 ex-service men there were only three cases, or an incidence of one in seventy; while among the entire female population between the ages of 20 and 30 the incidence was one in eight. Records as to the time since vaccination, collected by the American Legion at the request of Mr. R. A. Tarbett of the United States Public Health Service, show that all the ex-service men had been vaccinated for more than two years, and some of them as long as three years. This is definite proof that an individual enjoys a considerable degree of immunity for at least two years after inoculation.

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## *Clinical Notes, Suggestions, and New Instruments*

### A NEW SPLINT FOR TREATING FRACTURES OF THE LONG BONES

G. CARLYLE COOKE, M.D., WINSTON-SALEM, N. C.

This splint has been used with such gratifying results that it is well worth the attention of physicians generally. The advantages which it embodies over other appliances for the treatment of fractures of the long bones are:

1. The patient remains comfortable without in any way lessening the efficiency of the splint.

2. It is easily applied, the patient is easily cared for while it is used, and it can be kept in perfect adjustment by the ordinary hospital or home attendants.

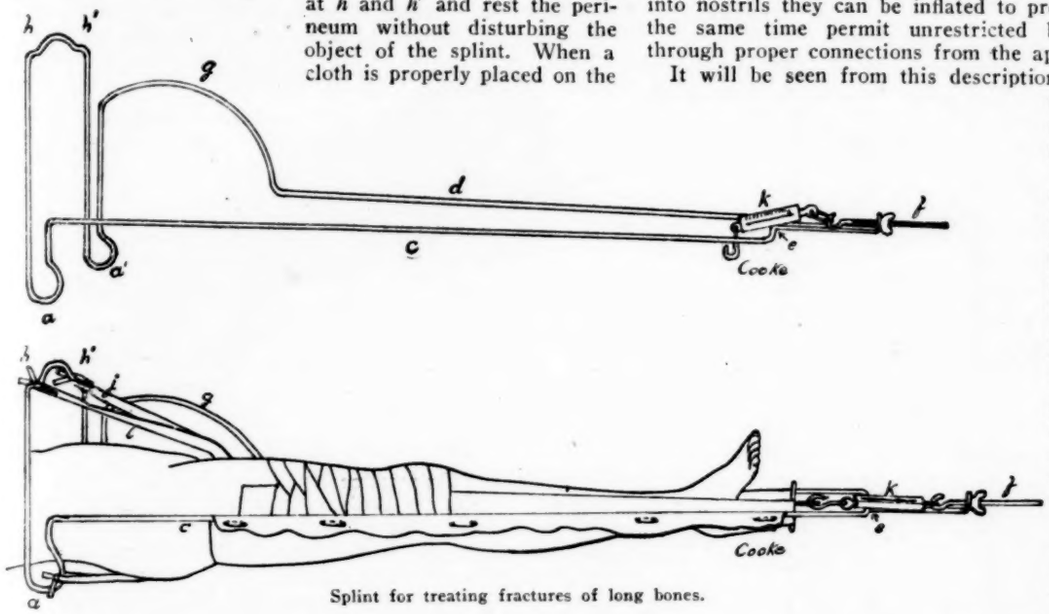
3. It maintains a reliable, resilient traction of known pull and equal countertraction in all positions that the patient may acquire under all conditions, and it is simple in construction.

#### SPLINT IN DETAIL

The splint proper is made of a seven-sixteenth inch iron rod with a loop at the upper extremity which arches over the body of the patient and rests on the mattress at *a* and *a'* on each side of the patient. These points are continuous with two parallel rods, *c* and *d*, 7 inches apart, 4 feet long, and of 5 inches' higher level than points *a* and *a'*, and are joined at *e*, where also a flat bar 6 inches long is welded on and bent at right angles with a three-eighth inch hole in the upright end. Through this hole is a bolt 5 inches long with a hook on one end and a thumb nut on the other. At *g*, a loop is made in one of the parallel rods according to whether it is for the right or the left leg, to allow space for the unaffected leg. At *h* and *h'* are notches made in the loop for the attachment of two straps, which may be padded with cotton or a pneumatic cushion, which pass over the groins of the patient, between the legs and in the gluteal fold to *a* and

*a'*, where they are secured and furnish a rigid but comfortable countertraction.

In one end of the bolt is hooked a spring balance to give a resilient pull on the adhesive spreader (that which is used on any form of Buck's extension), at the same time indicating the amount of pull in pounds. With this splint applied, the patient can sit up in bed and move himself about without disturbing the traction, and when the pressure on the perineum becomes distressing he can make pressure on the splint at *h* and *h'* and rest the perineum without disturbing the object of the splint. When a cloth is properly placed on the splint and secured with safety pins as used on the Thomas splint and shown in the drawing, it has a material advantage over the Balkan frame or other forms of Buck's extension appliances in that the patient can have the advantage of roentgenography at any time it may be desired.




Splint for treating fractures of long bones.

## COMBINATION MOUTH AND NOSE PIECE DESIGNED FOR USE WITH METABOLIC APPARATUS *

JOHN WALKER MOORE, B.S., M.D., LOUISVILLE, KY.

My purpose in this communication is to offer a preliminary report on a combination mouth and nose piece designed to take the place of the mouth piece and nose clip now in general use with the closed circuit portable respiratory apparatus of Benedict. The outstanding objections to the Benedict apparatus are due to inherent faults in the appliance by which the patient receives oxygen, namely the mouth piece, which may cause:

1. Irregular type of respiration as a result of mouth breathing and the discomfort of the nose clip.
2. Excessive salivation with resultant swallowing of oxygen.
3. Transmission of infection as a result of failure to sterilize parts of the closed circuit that come in contact with expired air.
4. Leakage.

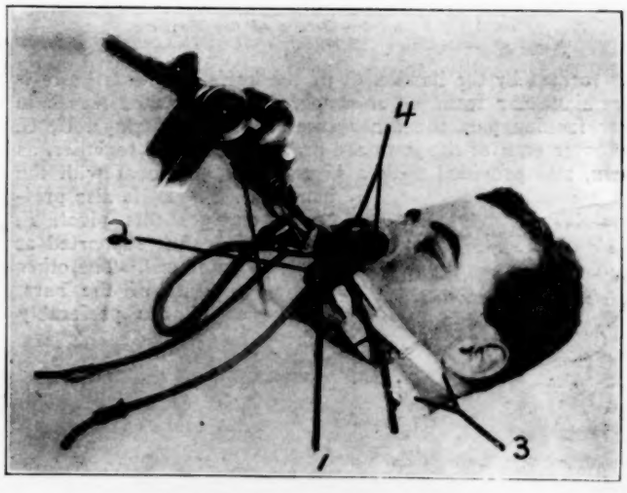
The face mask, at a glance, would seem to be the appliance of choice in that it permits unrestricted breathing from nose and mouth, and would therefore encourage normal breathing. It is easily sterilized and offers nothing which tends to cause increased salivation. Nevertheless, it is a well known fact that its use in all cases is impossible for the reason that leakage, however slight, is prone to occur. It is because of leakage, therefore, that the mask has not been generally accepted in the closed circuit apparatus.

The combination mouth and nose piece illustrated herewith has proved in our hands to obviate the foregoing faults as no other appliance has done. It consists of: (*a*) a rubber mouth piece constructed with an elliptic flange which readily adjusts itself when placed between the lips and the gums; (*b*) a pneumatic ring (1), which is slipped over the tubing of mouth piece and held in place by a hard rubber support (2); the latter is attached to straps (3) leading from the canvas head piece; (*c*) pneumatic nose pieces attached to special metal tubing inserted in the regular metal respiratory tube leading to instrument, (4), designed so that when inserted into nostrils they can be inflated to prevent leakage, and at the same time permit unrestricted breathing of oxygen through proper connections from the apparatus.

It will be seen from this description that this apparatus obviates the defects of the appliance in general use in that:

All the parts of the appliance can be sterilized by immersing them in a pint lightning top jar filled with 65 per cent. alcohol. This prevents any possible chance for transmission of infection by these parts of the apparatus. It should be rinsed thoroughly in water and allowed to dry before being used.

As the flange of the mouth piece is devoid of slugs, and is lifted when put in the mouth so that the tongue at no time comes in contact with foreign substances, salivation is less likely to occur than with the use of similar mouth pieces with slugs held between the teeth; and for this reason ingestion of oxygen is practically prevented.




Combination mouth and nose piece

The pneumatic ring, when inflated, binds the lips firmly to the flange within the mouth, obviating any possible chance for leaks in this region; thus, the responsibility for keeping the mouth piece in place does not rest with the patient. He may breathe from either the mouth or the nose.

This appliance has been in use in the metabolic ward of the Louisville City Hospital on the Sanborn Benedict metabolic apparatus for six months, and our tests cover fifteen minutes, even with the most nervous type of patient, without discomfort.

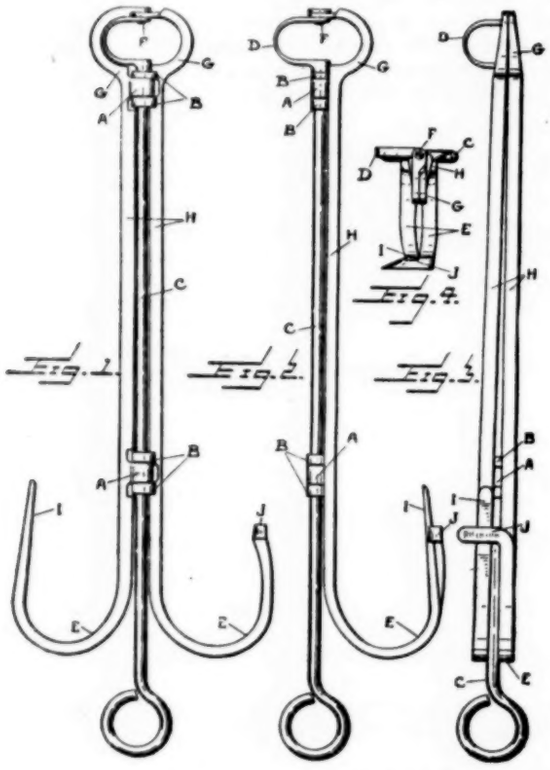
This appliance is to be manufactured and sold by the Sanborn Company, 1048 Commonwealth Avenue, Boston 47, Massachusetts.

* From Medical Research Laboratory, University of Louisville Medical Department.

## A TONSILLECTOME

W. C. TOLL, M.B., M.R.C.S., L.R.C.P., SIMCOE, ONT.

In this tonsillectome, the hemostat comprises two half rings, *G*, which are formed on or connected to the ends of bars *H*. These bars are provided with hinge knuckles, *A*, *B*, by means of which they are hinged together. The hinge pin is preferably formed by the handle, *C*, of the knife, *D*. This knife is of semiannular form, as shown, and when rotated moves in shear fashion past the inner faces of the half rings, *G*, *G*. The outer ends of the jaws are preferably halved together, as shown, and provided with a pivot, *F*, in alinement with the handle, *C*. The knife also preferably engages this pivot, *F*, and is thus supported at its outer end. The other ends of the bars, *H*, are preferably bent up to form handles, *E*. The end, *I*, of one handle is extended to form a resilient tongue adapted to be snapped into a keeper, *J*, formed on the end of the other handle. The bars, *H*, may thus be locked to retain the half rings, *G*, in the position shown in Figures 2, 3 and 4. It will be noted that when the half rings are opened out, as shown in Figure 1, that a completely unobstructed fenestrum is formed through which the tonsil to be removed may protrude when the device is positioned for use.




Figs. 1, 2, 3 and 4.—Details of tonsillectome.

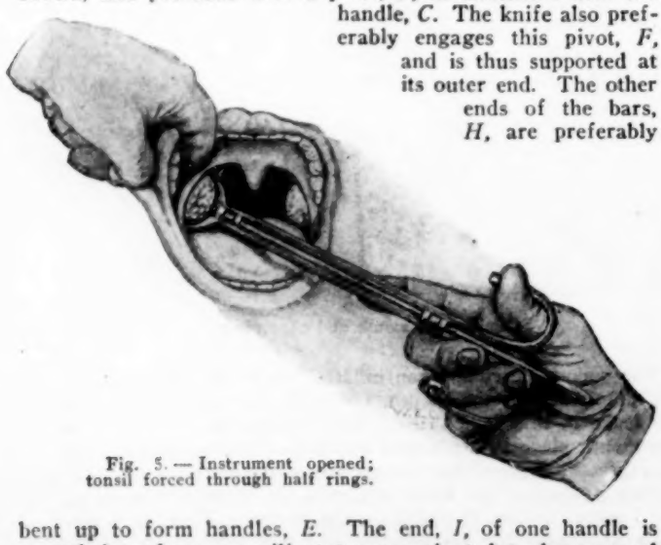


Fig. 5. — Instrument opened; tonsil forced through half rings.

The device is used in the following manner: In the first place the instrument is opened, as shown in Figure 1, and by suitable manipulation (Fig. 5) the tonsil to be removed is forced into or through the half rings, which are then folded together and locked (Fig. 6). This procedure separates the tonsil from both the anterior and posterior faucial pillars and the superior constrictor pharyngeal muscle, and crushes the connecting tissues, thereby securing hemostasis. The knife is then rotated by means of its handle to remove the tonsil from the crushed stump.

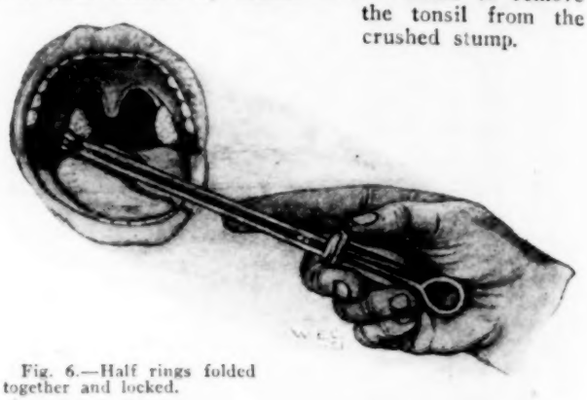


Fig. 6.—Half rings folded together and locked.

This method is the most nearly bloodless of any I have seen and is very rapid, my ordinary time for removal of tonsils and adenoids in a child being less than a minute. So brief an anesthesia is required that there is the minimum of anesthetic used and consequently the least toxic effect. The method is so easy in ordinary cases that any family physician could do the complete enucleation, relieving him or the family of the necessity of employing a specialist.

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## A CASE OF UNUSUAL SUSCEPTIBILITY TO IODIN

H. E. HAPPEL, M.D., ST. LOUIS

A white married woman, aged 50, admitted to the hospital, Feb. 8, 1921, suffering from metrorrhagia due to a fibroid uterus, was operated on, next day. In the course of a supravaginal hysterectomy, after dividing the uterus at the level of the internal os, I attempted to cauterize the cervical canal with phenol and alcohol; but the quantity at hand was insufficient, and I took a cotton-tipped applicator, dipped it into tincture of iodin, and touched it to the cervical stump. Less than a drop of the tincture was used.

Seventeen hours later, about 4 a. m., the patient began to complain of an intense itching and burning of the skin, with a sensation of swelling of the face and hands. When the light was turned on and she saw wheals on her arms and hands, she exclaimed, "They used iodin on me." The nurse examined the abdomen and found that picric acid solution had been used in preparation of the skin, and so informed her; but she insisted that iodin had been used somewhere, stating that about nine years before she had had a similar experience after painting the back of her neck with iodin to relieve soreness of the muscles.

The rash was a typical urticara involving the face, scalp, upper extremities, trunk, and to a less degree the lower limbs. The intramuscular injection of 10 minims of epinephrin chlorid, 1:1,000 solution, gave almost instant relief, the rash disappearing as if by magic; but it reappeared in about four hours. A second hypodermic of epinephrin produced the same effect, though not so promptly. The attack lasted two days, and the eruption was readily controlled by epinephrin. The attack nine years before lasted one month.

Less than one drop of iodin was used, and the patient was almost frantic from the itching and burning of the skin. I hesitate to think what might have happened if her abdomen had been painted with iodin instead of the 5 per cent. alcoholic solution of picric acid.

Wall Building.

## *Special Article*

# THE WAR RISK ACT AND THE MEDICAL SERVICES CREATED UNDER IT

L. B. ROGERS, M.D.
Assistant Medical Adviser, Bureau of War Risk Insurance
WASHINGTON, D. C.

The Medical Division of the Bureau of War Risk Insurance has been divided into a General Medical Section, Surgical Section, Neuro-Psychiatric Section, Eye, Ear, Nose and Throat Section, Dental Section, Tuberculosis Section, Amputation and Fracture Section, and a Foreign Relations Section.

The titles describe their functions. Each section consists of a chief, an assistant chief, medical referees and assistant medical referees, briefers, stenographers, typists and clerks. Formerly the case jackets were sent to the respective sections for medical action; but as this procedure involved the moving of great numbers of case jackets from the files to the medical sections daily, it was found to be more practicable to organize medical units in close proximity to the case files. There are at the present time fourteen such units, each complete in itself, having the necessary specialists to make disability ratings in all classes of cases except amputations and fractures, which are still handled in the section of this name. For administrative purposes, one physician in each unit is designated as chief of the unit; but each specialist in these units works under the direction of the chief of the section under which his specialty falls.

The amendatory act approved Dec. 24, 1919, contained the following provision:

> That the Bureau of War Risk Insurance is hereby authorized to furnish transportation, also the medical, surgical and hospital services and the supplies and appliances provided by Subdivision 6 hereof, to discharged members of the military or naval forces of those governments which have been associated in war with the United States since April 6, 1917, and come within the provisions of laws of such governments similar to the War Risk Insurance Act, at such rates and under such regulations as the director of the Bureau of War Risk Insurance may prescribe; and the Bureau of War Risk Insurance is hereby authorized to utilize the similar services, supplies and appliances provided for the discharged members of the military and naval forces of those governments which have been associated in war with the United States since April 6, 1917, by the laws of such governments similar to the War Risk Insurance Act, in furnishing the discharged members of the military and naval forces of the United States who live within the territorial limits of such governments and come within the provisions of Subdivision 6 hereof with the services, supplies and appliances provided for in such subdivision; and any appropriations that have been made or may hereafter be made for the purpose of furnishing the services, supplies and appliances provided for by Subdivision 6 hereof are hereby available for the payment to such governments or their agencies for the services, supplies and appliances so furnished and at such rates and under such regulations as the director of the Bureau of War Risk Insurance may prescribe.

In order to provide for effective compliance with this act, there was immediately established in the Medical Division the Foreign Relations Section, whose function was the proper accomplishment of the purpose of this provision. With the establishment of this section, efforts were instituted to accomplish reciprocal arrangements between the United States government and the governments of allied nations in the matter of physical examination, hospitalization and medical treatment of veterans of allied armies who were living in the United States, and veterans of the United States Army and Navy who are living in foreign countries.

Up to the present time satisfactory arrangements have been completed with Canada. Drafts of a proposed agreement concerning this subject have been submitted through the State Department to the United States ambassador at London for proper transmittal to the governments of England, France, Italy, Belgium, Portugal, Poland, Czechoslovakia, and the Serb, Croat and Slovene State for their approval; but no agreement has been reached with these countries.

In the meantime, at the expense of the United States government, ex-service men of the United States Army and Navy were being treated, largely in private institutions, in the following foreign countries: British American colonies, England, Ireland, Scotland, Wales, Africa, India, British Guiana, West Indies, France, Italy, Belgium, Holland, Denmark, Norway, Sweden, Poland, Roumania, Czechoslovakia, European and Asiatic Turkey, Portugal, Honduras, China, Brazil, Argentina and Mexico.

By the agreement in effect between Canada and the United States, examinations, hospital care and treatment are provided by the Bureau of War Risk Insurance for all beneficiaries of England, Canada, Australia and New Zealand residing in the United States, and the Canadian government performs like services for the United States veterans of the World War living in Canada.

During the fiscal year ending June 30, 1920, the number of actions taken on compensation cases by the Medical Division was 1,088,201. Medical ratings, re-ratings, requests for examinations and hospitalization of cases are all included in this number. The same case may have required attention two or more times. During the last quarter of the fiscal year ending June 30, 1920, for example, in which 397,570 cases were passed upon, the number which came to the attention of the Medical Division for the first time was but 93,898. During the first three quarters of the present fiscal year, June 30, 1920, to April 1, 1921, the number of actions taken on compensation cases by the Medical Division was 1,031,531. During the period from Jan. 1, 1921, to April 1, 1921, 379,750 cases were acted on. The records of the Medical Division show the exact number of claimants' cases referred to the United States Public Health Service district medical examiners during all except the first quarter of the fiscal year ended June 30, 1920. On that basis it is conservatively estimated that approximately 430,000 cases were referred out for examination and report during the year. At the present time, new claims are being received at the rate of approximately 800 per day. Of these claims a smaller proportion are being allowed than were allowed a year ago because of the fact that many of the disabilities for which claims are being made are not found to have been connected with the service. The average amount of monthly compensation paid per claimant in claims allowed to date is $36.

The law provides as follows:

. . . That no compensation shall be payable unless a claim therefor be filed, in case of disability, within five years after discharge or resignation from the service, or, in case of death during the service, within five years after such death is officially recorded in the department under which he may be serving: Provided, however, That where compensation is payable for death or disability occurring after discharge or resignation from the service, claim must be made within five years after such death or the beginning of such disability.

The time herein provided may be extended by the director not to exceed one year for good cause shown . . .

The longer the interval between the date of discharge and the date the claim is filed, the more difficult it becomes to establish service connection; and because of the fact that additional evidence, such as physicians' statements and affidavits from disinterested persons, must first be obtained, more time must be consumed in adjudicating such claims.

It is the duty of the medical referee not only to make an estimate as to the extent of disability indicated by the man's physical condition, but to decide whether or not the disability itself is of service origin. The latter question is becoming more difficult as time goes on.

In June, 1920, the average number of cases acted upon daily per medical officer was 114, while in March, 1921, the average number of cases acted upon daily was 92. The number of claims filed for the month of June, 1919, was 22,030; July, 1920, 15,566; March, 1921, 21,359. The number of disability claims disallowed for the month of June, 1919, was 956; for June, 1920, 3,899, and for March, 1921, 5,973. The total number of death and disability claims filed to April 7, 1921, was 603,903. In addition to the claims for death compensation, the number of disability claims awarded was 259,407; the number of disability claims disallowed was 102,462. The number of pending claims (death and disability) was 95,030, of which approximately 45,000 are awaiting medical action. This indicates that the Medical Division is less than seven days behind in its work. Of the foregoing 50,854 death claims but 46,301 payments are active, and of the foregoing 259,407 disability awards but 153,100 payments are active. There had been awarded to March 31, 1921, 9,770 awards for permanent and total disability; of this number 5,255 are active. The total number of artificial arms provided to March 31, 1921, was 1,401, and the total number of artificial legs was 3,254. There are but few cases in which a permanent rating can be given when the claim is first made. Were it possible to make permanent ratings in all cases, the work of the Medical Division would be considerably simplified; but this cannot be done, owing to constant changes in the claimant's physical condition which necessitate periodic revisions of the disability rating.

When a new claim for compensation is received in the bureau it must be accompanied by a certified copy of the man's honorable discharge from the service. Immediately on receipt of these papers, the district supervisor in whose district the man resides is called on to have a physical examination made of the claimant and to forward a report of this examination to the bureau. At the same time a request is made of the Adjutant General of the Army or the Surgeon General of the Navy, as the case may be, for an abstract of the man's medical record while in the service. When all of these papers have been placed in the file the case jacket is first reviewed by a briefer who tabulates all of the pertinent data in the case and refers them to a Medical Referee of the appropriate section, and ratings are made in each instance by specialists in one or more of these branches of medicine. Claimants having disabilities involving two or more specialties are rated for each disability by a specialist in each of the respective sections, the combined rating being the result of concurrent action by two or more sections. The medical referee reviews all of the facts in the case and makes the disability rating, and also makes a statement as to whether or not from a medical standpoint the disability is due to disease or injury incurred in or aggravated by the service. All cases bearing a temporary rating are referred directly to the Compensation and Claims Division, where the adjudication of the claim is completed and a check is sent to the claimant..

All cases which have been rated as permanently and totally disabled are referred to a medical board of review consisting of five members. The rating made by the Medical Referee is either confirmed or disapproved by this board, and the case is then sent to the board of appeals for approval or confirmation. If the action of the medical board of review is confirmed by the board of appeals, no further action is necessary. In the case of disagreement between the two boards, the case is referred to the assistant director of the Compensation and Claims Division and the medical adviser; and in case of disagreement between them, to the director for final decision.

There has been considerable misunderstanding on the part of the ex-soldiers as well as on the part of the public at large concerning the difference between insurance and compensation.

### COMPENSATION

The following abstracts of that portion of the law which deals with compensation for death or disability must be taken into consideration in dealing with the question of disabilities and their proper ratings:

Section 300, War Risk Insurance Act, as amended:

For death or disability resulting from a personal injury suffered or disease contracted in the line of duty, by any commissioned officer or enlisted man or by any member of the Army Nurse Corps (female) or of the Navy Nurse Corps (female) when employed in the active service under the War Department or Navy Department, the United States shall pay compensation as hereinafter provided; but no compensation shall be paid if the injury or disease has been caused by his own wilful misconduct; Provided That for the purposes of this section said officer, enlisted man, or other member shall be held and taken to have been in sound condition when examined, accepted and enrolled for service: Provided further, That this section, as amended, shall be deemed to become effective as of April 6, 1917. . . .

Section 306, War Risk Insurance Act:

No compensation shall be payable for death or disability which does not occur prior to or within one year after discharge or resignation from the service, except that where after a medical examination made pursuant to regulations at the time of discharge or resignation from the service, or within such reasonable time thereafter, not exceeding one year, as may be allowed by regulations, a certificate has been obtained from the director to the effect that the injured person at the time of his discharge or resignation was suffering from injury likely to result in death or disability, whenever occurring, proximately resulting from such injury.

Section 309, War Risk Insurance Act:

No compensation shall be payable unless a claim therefor be filed, in case of disability, within five years after discharge or resignation from the service, or, in case of death during the service, within five years after such death is officially recorded in the department under which he may be serving: Provided, however, that where compensation is payable for death or disability occurring after discharge or resignation from the service, claim must be made within five years after such death or the beginning of such disability. The time hereinafter provided may be extended by the director, not to exceed one year for good cause shown. . . .

A disability is considered to be a mental or physical condition which would cause to the average person an impairment of earning capacity in civil occupation.

Disabilities are classified as:

1. Temporary:
   (*a*) Partial.
   (*b*) Total.
2. Permanent:
   (*a*) Partial.
   (*b*) Total.

The law provides for compensation in the class of permanent disabilities on the basis of $100 per month for a total disability, and in the class of temporary disabilities on the basis of $80 per month for total disabilities. If the claimant has one or more dependents, additional compensation is provided.

If the disabled person is so helpless as to be in constant need of a nurse or attendant, such additional sum shall be paid, but not exceeding $20 per month, as the director may deem reasonable.

A claimant awarded a temporary total rating, or, in other words, one who is temporarily totally incapacitated for any work, or who is in a hospital undergoing treatment but whose ultimate recovery is expected, receives compensation at the rate of $80 per month. If he has a wife and no children living, $90 per month. If he has a wife and one child [1] living, $95 per month; if he has a wife and two or more children, $100 a month.

Temporary partial disabilities are rated according to the foregoing figures. For example: A claimant 50 per cent. disabled, without dependents, would receive $40 per month, or one half of the amount to which he would be entitled were he awarded a temporary total rating.

All claimants who are in fact permanently and partially disabled or temporarily and partially disabled, who are undergoing hospital treatment, are considered to be temporarily totally disabled and are so rated for compensation purposes while in hospital, and disabilities from an injury or disease are rated as total and permanent in conformity with Treasury Department Regulation No. 57 of Nov. 26, 1920, which reads, in part:

For compensation purposes a disability from an injury or disease shall be rated as total and permanent under any of the following conditions:

(*a*) When a statutory total permanent disability entitles a person to such rating, viz., "loss of both feet or both hands or the sight of both eyes, or the loss of one foot and one hand, or one foot and the sight of one eye, or one hand and the sight of one eye, or becoming helpless and permanently bedridden."

(*b*) When from the evidence submitted it is determined that a person has suffered an impairment of mind or body of a degree which would render the average man incapable of following continuously any substantially gainful occupation and it furthermore appears reasonably certain that such degree of disability will continue throughout the life of the disabled person.

(*c*) When a presumption of total permanent disability is established under the following conditions:

1. Where the disabled person is on the date of the issuance of this regulation, or hereafter shall be, either an inmate of a hospital or asylum during a continuous period of six months or more; or on the date of the issuance of this regulation is, or hereafter shall be, rated as totally disabled or totally and temporarily disabled for a continuous period of six months or more, and be unable to follow continuously any substantially gainful occupation during such six months; and in addition at the time of the medical examination hereinafter prescribed shall be found then to be in such physical or mental condition as to require further hospitalization or otherwise unable to follow continuously any substantially gainful occupation.

2. Before the disabled person shall be rated totally and permanently disabled under the preceding paragraph, a medical examination shall be conducted for the purpose of ascertaining his or her true physical and mental condition, and in addition all facts as to his or her ability to engage continuously in a substantially gainful occupation shall be procured.

3. While the disabled person is an inmate of a hospital or asylum, he or she shall be deemed during such period to be temporarily totally disabled and unable to follow continuously any substantially gainful occupation, unless and until his or her disability rating is made permanent and total under the conditions of this regulation.

All persons rated totally and permanently disabled shall be medically examined from time to time, but at least once every six months from the date of such rating for the purpose of determining whether or not the rating of total permanent disability should be continued or be modified unless it is clearly shown that such examinations are wholly unnecessary.

Certain specific disabilities are called statutory, as they are provided by law. For example:

A claimant is considered to be totally and permanently disabled when he has suffered the loss of both feet or both hands, or the sight of both eyes or the loss of one foot and hand, or one foot and the sight of one eye, or one hand and the sight of one eye, or becomes helplessly and permanently bedridden.

The law provides that for double total permanent disabilities the rate of compensation shall be $200 per month. Claimants who have lost both eyes and both arms, both eyes and both legs, or one foot and one hand and both eyes, are considered to be in this class. Only three cases of double total permanent disability are on record in the bureau at this time. Two have lost both arms and both eyes, and one has lost both hands and both eyes. There are no cases on record either in the United States Army or in the British Army of men who have lost both arms and both legs and who have lived to claim a pension.

Disability ratings are based on the claimant's actual physical or mental condition at the time his application is made, as shown by a report of examination made by a physician or physicians designated by the Bureau of War Risk Insurance or the United States Public Health Service to examine the claimant and are made in accordance with a ratings table prepared in this bureau.

The law provides that:

. . . A schedule of ratings of reductions in earning capacity from specific injuries or combinations of injuries of a permanent nature shall be adopted and applied by the bureau. Ratings may be as high as 100 per centum. The

1. Unmarried children under 18 years, or of any age if insane, idiot or otherwise permanently helpless.

ratings shall be based, as far as practicable, upon the average impairments of earning capacity resulting from such injuries in civil occupations and not upon the impairment in earning capacity in each individual case, so that there shall be no reduction in the rate of compensation for individual success in overcoming the handicap of a permanent injury. The bureau in adopting the schedule of ratings of reduction in earning capacity shall consider the impairment in ability to secure employment which results from such injuries. The bureau shall from time to time readjust this schedule of ratings in accordance with actual experience.

In compiling this schedule of ratings for disabilities, the various opinions of the leading specialists in the United States and the schedule of ratings of Belgium, France, Canada and England now in effect have been taken into consideration.

TABLE 1.—TOTAL NUMBER OF CLAIMANTS' CASES ACTED ON BY THE MEDICAL DIVISION DURING MARCH, 1921

| Section | Number |
|---|---|
| Medical units | 112,660 |
| Foreign relations | 4,148 |
| Fractures and amputations | 4,128 |
| Medical board of review | 6,856 |
| Section chiefs | 10,018 |
| Total | 137,810 |

Service connection or aggravation must be established for the disability before compensation can be awarded.

In making disability ratings it must be constantly borne in mind that the War Risk Act and its amendments were conceived and enacted for the benefit of veterans of the World War who have suffered injury or disease while engaged in warfare to protect the rights and preserve the integrity of our country.

While it was no more than their duty to serve, it is the responsibility and intent of our government, as expressed by the War Risk Act, to care for and assist those who were so unfortunate as to have become disabled in the performance of their duties. The law must be administered by its broadest interpretation, and ratings of disability are made as generous as possible in consistency with the facts. Wherever a question of doubt arises, the benefit of such doubt is given to the claimant.

Whenever the medical evidence is insufficient to determine which of two disability ratings should be given, the higher rating is made and continues until such time as it is definitely and unquestionably shown that this rating was not consistent with the facts. Difficulty is frequently encountered in connecting present disabilities with the military or naval service. When there is any doubt in the minds of those whose duty it is to rate such cases, here again the benefit of the doubt is given to the claimant. Even though it is not definitely and clearly shown that the disability from which he suffers is of service origin, it is so considered, if the possibility that such condition could have originated in or have been aggravated by the service is reasonable when considered in the light of clinical and pathologic experience.

It is believed that the Congress and the public at large would be more willing to condone possible errors in favor of ex-service men than those in favor of the government.

In making disability ratings, all personal matters should be set aside; and it must be remembered that the majority of claimants are sick persons who are seeking benefits to which they are entitled by law. An antagonistic, critical, or even abusive attitude on the part of a claimant should not influence the physician in rating the case. Consideration and courtesy must at all times be shown to ex-service men and women by members of the medical profession and all officers and employees whose duties bring them in contact directly or indirectly with claimants of this bureau.

By the term "service connection" is meant the establishing of the fact that the existing disability is directly or indirectly the result of the claimant's military or naval service.

The service origin of a disability may be determined in the following ways:

1. By consulting the records of the Adjutant General of the Army or the Bureau of Medicine and Surgery of the Navy, as the case may be, and obtaining an abstract of the claimant's medical record while in the service.

2. By obtaining statements of the claimant's physical or mental condition subsequent to discharge from the service by a physician or physicians who have treated him, showing dates of treatment, nature and degree of disability treated. Consideration of the time elapsed since date of discharge and the nature of the disability will have a decided bearing on the question of service connection.

3. By securing affidavits from disinterested parties who knew the claimant prior to service, while in the service, or subsequent to his discharge, and who can testify as to his condition during one or all of these periods.

In the majority of cases, service connection can be established from the records of the Adjutant General's office or the Bureau of Medicine and Surgery of the Navy. These records are requested in every case applying for compensation. In the absence of such evidence, physicians' statements and affidavits from disinterested parties are obtained.

The term "service aggravation" implies that although the disability for which the claim is made for compensation existed at the time of enlistment or induction into the military or naval service, this disability was increased by service.

TABLE 2.—RATINGS (INCLUDING NEW RATINGS AND RERATINGS) GIVEN ON ALL CASES ALLOWED BY THE MEDICAL DIVISION IN FEBRUARY AND MARCH, 1921

| Degree of Impairment | Number Rated In February | Number Rated In March |
|---|---|---|
| Temporary partial | 24,666 | 25,499 |
| Permanent partial | 1,495 | 1,609 |
| Temporary total | 6,197 | 5,524 |
| Permanent total | 1,096 | 2,172 |
| Total allowed | 33,454 | 34,804 |
| Death | 116 | 305 |

The term "discharged from service" implies that the man was examined, accepted, and enrolled for service in the military or naval forces of the United States previous to his discharge.

The term "discharged from draft" implies that the man was taken into the draft, medically examined at camp, was not accepted or enrolled for service, but was discharged from the draft. The law provides:

That if after induction by the local draft board, but before being accepted and enrolled for active service, the person died or became disabled as a result of disease contracted or injury suffered in the line of duty and not due to his own wilful misconduct, involving moral turpitude, or as a result of the aggravation, in the line of duty and not because of his

own wilful misconduct involving moral turpitude, of an existing disease or injury, he or those entitled thereto shall receive the benefits of compensation payable under Article III: Provided, That any insurance application made by a person after induction by the local draft board but before being accepted and enrolled for active service shall be deemed valid.

A man discharged from draft is not considered as having been in service; and unless disability was definitely caused by or aggravated by conditions occurring during his days of draft service, he is not entitled to compensation.

When an enlisted man has a latent defect which is specifically noted, he is accepted subject to that defect;

TABLE 3.—STATEMENT ON EXPENDITURES FROM APPROPRIATION "MILITARY AND NAVAL COMPENSATION" AND "MEDICAL AND HOSPITAL SERVICES, 1921," ACCUMULATED THROUGH MARCH, 1921, AND THE MONTH OF MARCH, 1921

| Compensation Awards | March, 1921 | Accumulated |
|---|---|---|
| Death | $1,415,018.96 | $ 29,540,517.05 |
| Disability | 8,040,965.48 | 166,538,674.60 |
| Total | $9,455,984.44 | $196,079,191.65 |
| All other items * | $2,181,024.36 | $ 42,000,323.64 |

* Expenditures for all other items includes "accrued awards, transportation, traveling expenses, burial awards, hospital services, physical examination, medical and surgical, supplies, subrogation," and allotments to United States Public Health Service, United States Army, United States Navy, and National Soldiers' Homes.

| | |
|---|---|
| Total cases acted on to date | 2,192,591 |
| Total cases rated in March, 1921 | 137,810 |

and if the defect later becomes aggravated, he is compensable in the measure of the increase of his disease or disability while in line of duty, and not as the result of his wilful misconduct, but only for the extent of aggravation.

Whenever an enlisted man has a patent defect—missing fingers, toes, ears, feet, etc.—if he is accepted for service he is, of necessity, accepted subject to his obvious physical shortcomings. When these shortcomings are not aggravated by service, he is not compensable at all.

No compensation is payable for a reduction in earning capacity rated at less than 10 per cent.

Claims may be disallowed for the following reasons:

1. When disability is under 10 per cent.
2. When it is not shown that the disability is connected with service.
3. When the claimant has been dishonorably discharged from the service.
4. When the claimant is receiving retirement pay.
5. When the claimant refuses to submit to examination.
6. When the disability has occurred more than one year after discharge from the service, the claimant not having previously obtained a certificate of disability from this bureau.
7. When the claimant has already received a pension from the Pension Bureau.
8. When he is receiving vocational training.
9. When it is not shown that he has served in the United States Army, Navy or Marine Corps, but may have served in the Army or Navy of an allied country.

When the claimant has been receiving compensation because of a disability rated at 10 per cent. or more, and when this disability is later determined to be less than 10 per cent., compensation previously awarded will be discontinued.

When the claimant has been receiving compensation for a disability of 10 per cent. or more and fails to report for reexamination on request, his compensation shall be discontinued after receipt of warning and elapse of a determined period.

Whenever a report of physical examination is incomplete or does not contain sufficient evidence on which to rate the case, the district supervisor may be requested to have a new examination made, his attention at the same time being called to the incompleteness of the previous examination and report. Reexaminations may be called for at a future date, when in the opinion of the medical referee this procedure is necessary, and when it is reasonable to suppose that the claimant's physical condition will have changed. Cases may be reopened at the request of claimants on the presentation to the board of appeals of additional evidence. If the board of appeals considers such new evidence to be adequate, cases are sent to the medical board of review for reconsideration.

### INSURANCE

Insurance provided for by Article IV of the War Risk Act, as amended, is a provision separate and distinct from compensation. Insurance is a matter of contract. It is optional with persons in the military or naval service as to whether or not they desire additional protection afforded by insurance. Their premiums must be paid to keep the insurance in effect as is required in the instance of a policy of insurance with a private insurance company, and the optional forms of policies are the same as are offered by commercial institutions, the difference being that there is no overhead charge for the cost of administration or an overhead cost due to excess mortality rates, the government itself bearing this cost of administration and this additional cost of protection.

There is one other cardinal distinction between the benefits of compensation and of insurance. Compensation is paid for an injury sustained or a disease contracted in line of duty, or an injury sustained or a

TABLE 4.—CASES REFERRED TO UNITED STATES PUBLIC HEALTH SERVICE DISTRICT SUPERVISORS *

| District | January | February | March | Total |
|---|---|---|---|---|
| 1 | 3,025 | 3,299 | 3,613 | 9,937 |
| 2 | 5,103 | 5,424 | 4,091 | 14,618 |
| 3 | 2,750 | 2,667 | 2,073 | 7,490 |
| 4 | 2,111 | 2,625 | 2,539 | 7,275 |
| 5 | 4,124 | 4,373 | 4,792 | 13,289 |
| 6 | 1,869 | 1,927 | 1,688 | 5,484 |
| 7 | 5,901 | 5,576 | 5,048 | 16,525 |
| 8 | 5,869 | 5,853 | 4,274 | 15,996 |
| 9 | 3,959 | 4,553 | 4,123 | 12,635 |
| 10 | 1,942 | 1,920 | 1,757 | 5,619 |
| 11 | 1,582 | 1,642 | 1,082 | 4,306 |
| 12 | 1,558 | 1,549 | 1,326 | 4,433 |
| 13 | 1,155 | 1,220 | 1,006 | 3,381 |
| 14 | 2,665 | 2,782 | 2,254 | 7,701 |
| 15 | 91 | 95 | 70 | 256 |
| 16 | 102 | 85 | 77 | 264 |
| Foreign | 1,640 | 1,808 | 3,096 | 6,544 |
| Total | 45,446 | 47,398 | 42,909 | 135,753 |

* Number of claimants' cases referred to district supervisors for physical examination, in January, February and March, and for the quarterly period ended March 31, 1921.

disease accelerated by or aggravated by military or naval service; and the payments of insurance are made irrespective of a line of duty status or the connection of the injury producing a permanent and total disability with military or naval service.

Of the cases acted on by the Medical Division during March, 1921, 47,105 were rated as to degree of impairment. This number includes 31,754 new ratings and 15,351 reratings. Of the total number rated, 34,804 were allowed and 12,301 disallowed, 305 death cases were passed on, and nineteen certificates of injury were issued. The ratings given on cases allowed are shown in Table 2.

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SATURDAY, APRIL 23, 1921

## THE MARTIN LUTHER OF MEDICAL EDUCATION

Prof. W. T. Sedgwick,[1] in an address delivered just before his death, said:

> Fifty years ago began in Boston a revolt against the then prevailing laxity of medical education, a nineteenth century reformation which laid the foundation of modern medical education and modern medicine in the United States. The Martin Luther of that medical reformation was Charles William Eliot, then the new and youthful president of Harvard University.

The event of which Professor Sedgwick spoke is but one of a long series, before and after, which mark the road that led to our present position in medical education. In the medical schools first founded in America the standards were high, corresponding to those in the European schools in which the faculty members had been educated. After the Revolutionary War, when the schools were reorganized, the standards for admission and graduation became lower. With the spread of population came the springing up of numerous medical schools, with resulting competition for students and consequently a further disregard of any educational standards. Entrance requirements virtually disappeared, and the requirements for graduation became largely nominal. The men who became leaders had acquired a proper training either by study in Europe or by the laborious process of individual study and experience. Public spirited physicians who had the welfare of the profession and the public at heart tried to secure definite requirements for those who practiced medicine. The first concrete results appeared in the organization of medical societies which were empowered to pass on the qualification of candidates for the practice of medicine. The advantage of this arrangement was soon lost because of the general acceptance of a degree from a medical school as sufficient authority to practice medicine. The requirements for graduation remained low: no preliminary tests, two courses of lectures of four months each, a thesis. Efforts were made by individuals on the faculties to extend the courses and raise the standards, but the rapid increase of schools and the rivalry for students prevented any improvement.

1. Sedgwick, W. T.: Modern Medicine and the Public Health, Pub. Health Rep. **36**: 109 (Jan. 28) 1921.

In the fourth decade of the nineteenth century, determined efforts looking toward a reform in medical education began to be put forth. The most aggressive of the advocates of improvement were young men, who were faithfully supported by many older ones. Youth supplied the enthusiasm and assurance, while maturity served to hold the efforts to lines likely to lead to success. The friends of reform were soon convinced that definite results could follow only concerted action. The first effort to secure such action was made by the faculty of the Medical College of Georgia.[2] In May, 1835, the faculty sent a letter to all the medical colleges suggesting "calling a convention of delegates from all the colleges in the Union to devise some general plan and adopt a system of education which should be uniform throughout the United States." It was "suggested that the determination of the time, the number of delegates from each college, etc., should be referred to the faculty of the University of Pennsylvania, the oldest medical school in our country." Failure of the University of Pennsylvania to act, it is alleged, arrested the movement. Joseph A. Eve, then 30 years old, who was probably the prime mover, says that "from some few of the colleges, answers favorable to the enterprise were received; others declined cooperation; a third portion made no reply. evincing thereby no disposition for reform." In 1836, Eve wrote an earnest plea for the reform of medical instruction in the United States. He took issue with Professor Jackson of the University of Pennsylvania, who acknowledged the need for improvement in various directions, but believed it was not for the present generation to undertake the reform. Eve impatiently exclaimed: "How long would this distinguished professor delay the reformation? The spirit of the times calls aloud for reformation."

The emphatic and imperative words of Eve reached some receptive ears. In 1836, James Moultrie[3] drew attention to the defects in our system of medical education, and insisted that medical instruction should be part of a general scheme of education controlled by the state. At the second session of the Medical Convention of Ohio,[4] in January, 1838, resolutions were adopted which directed attention to the defects in our system of medical education and to the steps necessary for their correction, and urged the holding of a convention of representatives of the various schools of the Union to cooperate regarding existing defects and to remedy them by cooperation. These resolutions were ably discussed in an editorial by Daniel Drake[5] on the "American Medical School," published in the *Western Journal of the Medical and Physical Sciences,* in which he urged the calling of the convention under invitation from the University of Pennsylvania. The "oldest medical school" in the country, however, did not act,

2. Eve, J. A.: Medical Education, South. M. & S. J. **1**: 216, 1836.
3. Moultrie, James: Memorial on the State of Medical Education in South Carolina, Charleston, 1836.
4. Western J. M. & Phys. Sc. **2**: 507, 1838.
5. Drake, Daniel: American Medical School, Western J. M. & Phys. Sc. **2**: 571, 1838.

and left it to influences outside the medical schools to initiate and subsequently to carry forward the fight for advancement in medical education.

In 1846, largely as a result of persistent efforts of the New York State Medical Society, there met in New York City a convention representing medical societies and colleges in sixteen states. A committee was appointed to effect a permanent organization, which resulted the next year (1847) in the founding of the American Medical Association. Through it the battles to raise medical standards have been subsequently fought.

One of the men most influential in the organization of the American Medical Association was Nathan Smith Davis. At that time he, too, was but 30 years old, and during his long life he constantly battled for the cause of higher medical standards. His enthusiasm and persistence accomplished wonderful results. In 1849, he migrated from New York to Chicago, and at once became a forceful figure in medical circles there. For ten years he tried to realize his ideals through the old medical school with which he was connected. He secured improved clinical advantages, but was impatient for more rapid and radical results. In 1859, to accomplish his purpose, he led in the organization of a new medical school. He resigned from the established school with its locally strong faculty and considerable body of successful alumni, and headed a group of men in the organization of the Medical Department of Lind University, a newly established local institution.[6]

It should be noted that another western school, the Medical Department of the University of Michigan, in 1850 had taken an advanced position in requirements for admission and graduation; but because of limited clinical advantages it was compelled to announce that "the hasty walk through the wards of a hospital furnishes at best but a sorry substitute for the close and accurate study of cases as they occur in the professional rounds of the private practitioner." Other medical schools, including those in the East, were slow to follow, deterred by the entailment of increased labor and diminished pecuniary receipts. In 1871, however, the Medical School of Harvard University introduced a graded course of study and more rigid requirements. In that year, H. J. Bigelow, in his annual address before the Massachusetts Medical Society,[7] spoke of the educational advantages of European countries, toward which we should strive, and said: "The mass of human knowledge grows, indeed; but many years must elapse before we can expect such growth in this country, before scientists will look to an American city, as to the Vienna, the Berlin, or even the Paris of medical science."

As Bigelow predicted, the process of growth was slow. Except in rare instances, the general level of medical education was not much raised for another thirty years. From this time on, the publication of actual facts regarding medical education by THE JOURNAL became a determining factor. This publication and the able work of the Committee on Medical Education of the Association must be largely credited with having brought us to the place from which the distant view of Eve, Moultrie, Davis and Bigelow can be distinctly discerned, and where we may prepare for the further efforts which are required for the complete realization of their vision.

And so the struggle which has brought about our medical reformation was initiated in the South, was taken up in the Great Lakes region, and later reached the eastern part of the country. In the struggle we cannot distinguish a Martin Luther, but rather in Eve "a voice crying in the wilderness," in Davis "an apostle to the Gentiles," a preacher and writer of epistles, and with them and after them a large group of apostles, too numerous to mention.

6. At the opening of the new school, Davis stated the principles on which it was founded (Chicago Medical Examiner **1**: 1, 1860). Briefly, they were: first, the extension of the college term to five months; second, the increase of professors corresponding with the number of branches actually included within the domain of modern medicine; third, the division of the term into junior and senior departments in such a way that all students attending their first course may concentrate their attention on the more elementary branches, and advance in their second course to the more practical; fourth, fewer lectures each day with practical examinations; fifth, the elevation of clinical medicine and surgery to the rank of professorships, and making clinical instruction in the wards of a hospital a necessary part of the course in the senior department.

7. Bigelow, H. J.: Medical Education in America, Cambridge, 1871.

## THE VALUE OF THE WASSERMANN REACTION IN OBSTETRICS AND THE VALIDITY OF COLLES' LAW

In all fields of medicine the advent of the Wassermann reaction soon demonstrated that those who had been considered as extremists in advocating the importance of syphilis as an etiologic factor in the most varied aspects of disease were more nearly correct than their more conservative colleagues. "The trouble with pessimists is that they are so often right." Obstetrics is no exception in illustrating the fact that the worst expectations have been realized. An especially careful and extensive study at the Johns Hopkins Hospital by Williams[1] and his staff has revealed facts of great importance concerning the incidence and prenatal transmission of syphilis. A study of 10,000 consecutive deliveries prior to 1915, in which careful routine microscopic study of all placentas, and Wassermann tests in selected cases, furnished the evidence, showed that syphilis accounted for 26 per cent. of the fetal deaths between the end of the seventh month of pregnancy and the two weeks immediately following delivery. Since then the Wassermann reaction has been determined in every case, 4,547 in all, with 11.2 per cent. positive. About half the patients were negroes, with 16.29 per cent. positives as against 2.48 per cent. in the white women, a fact which must be taken into consideration in evaluating the significance of the effects of prenatal syphilis. There were 302

1. Williams, J. W.: Value of Wassermann Reaction in Obstetrics, Bull. Johns Hopkins Hosp. **31**: 335 (Oct.) 1920.

fetal deaths (99 whites and 203 blacks) and syphilis was responsible for 34.4 per cent. of these, not including infants discharged alive with syphilis or manifesting it later. Nevertheless, it was found that by no means all women with a positive Wassermann test transmit syphilis to the fetus even when untreated, there being 51.5 per cent. of apparently uninfected infants among 169 such patients, as compared with 66.8 per cent. sound offspring from 102 inefficiently treated women, while 93.6 per cent. of the children of 178 syphilitic women who were thoroughly treated seemed free from syphilis. The value of vigorous treatment of syphilitic women is thus conclusively established, and Dr. Williams believes that early application of the Wassermann reaction, with vigorous treatment in all positive cases, would reduce the mortality from congenital syphilis by five sixths, thus saving about fifty children from syphilis in every thousand deliveries in this particular clinic.

On the other hand, no less than forty-three syphilitic children were born to women who exhibited negative Wassermann reactions, which brings up again the question of the validity of the "law" propounded in 1837 by Abraham Colles. This, it will be recalled, was to the effect that it is possible for a syphilitic father to engender a syphilitic child by a normal mother, and that the latter would remain immune to infection from her own child, while others might be infected by it. Such an occurrence presupposes infection of the ovum by means of the spermatozoon, with the subsequent development of immunity on the part of the mother. Presumptive evidence in its favor is afforded by the fact that comparatively few mothers of syphilitic children present a history of primary infection, and frequently give birth to a series of syphilitic children without ever developing signs of the disease. Fournier was an ardent believer in the doctrine, and his advocacy of the occurrence of so-called conceptional syphilis, or *choc en retour*, lent still further support to the probability of paternal infection. Indeed, it may be said that Colles' law was almost universally accepted up to 1903, when its applicability was denied by Matsenauer.

When the spirochete of syphilis was discovered, however, it at once became seriously questioned whether a spermatozoon could possibly carry such a relatively enormous load as this large parasite would constitute and succeed in reaching and impregnating the ovum, especially in view of the fact that presumably it would be competing with unhandicapped spermatozoa on the long obstacle race from the vagina to the tube. Furthermore, the possibility of an ovum infected at the instant of fertilization by a virulent parasite ever passing through the complex cycle of reproduction to produce an approximately normal fetus also seemed difficult of comprehension. And soon came the Wassermann test, which showed that usually the supposedly nonsyphilitic mothers of syphilitic fetuses give positive reactions, despite the absence of clinical evidence of the disease. As a result, Colles' law became generally discredited.

Williams, however, despite the recognized plausibility of the arguments against Colles' law, in view of his extensive experience, holds that the question should still be regarded as *sub judice*. Not only are there numerous instances (forty-three in this series) of women giving birth to proved syphilitic children when the mothers exhibited no positive Wassermann reaction and no other evidence of syphilis, but also other items that give support to the possibility of paternal infection of the fetus without infection of the mother. For example, it sometimes happens that patients who present a positive reaction during pregnancy become negative shortly after delivery without having had treatment. He also cites the case of a woman who had five normal children, and then a sixth pregnancy with a syphilitic fetus. Her own Wassermann reaction was negative and that of her husband positive, as was the case when her seventh pregnancy resulted in syphilitic twins.

A most remarkable case, moreover was that of a woman who, after having had six normal children, gave birth to premature male ovum twins, one of which was syphilitic and the other normal, corroboration being furnished by microscopic study of the placentas. On questioning, admission was made that the patient had intercourse not only with her husband but also with a lover who was found to be under treatment for syphilis. The Wassermann reactions of both the mother and her husband were negative. Since then the woman has given birth to eleven more children, none of whom showed any evidence of syphilis, nor did the placentas on microscopic examination. The explanation that seems most reasonable, even if apparently fantastic, is that the one syphilitic infection resulted from superfetation of a second ovum by the syphilitic father, after normal fertilization of the first ovum by the husband, without infecting the mother. If so, this is a perfect demonstration of Colles' dictum.

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## PROGRESS IN THE STUDY OF MEASLES

The importance of ascertaining the etiologic agent in the causation of measles scarcely requires emphasis. Its widespread distribution and total mortality place it in the forefront of diseases demanding thoroughgoing investigation. The foremost reason why the prevention of measles is still so largely unsuccessful, even where strict quarantine is maintained, is the contagiousness of the disease during its prodromal period. Hence the best prospect of prevention seems at present to lie in the possibility of protective inoculation, as is true in smallpox. As recent writers have pointed out, this obviously requires isolation of the virus of measles, or at least the development of a method of handling the virus in pure form, whether or not it is

actually identified under the microscope and in the culture tube.

To rehearse the attempts that have been made to transmit measles experimentally to man and laboratory animals would require more space than the bounds of editorial discussion permit. The efforts to secure identifiable cultures of a specific effective microbiotic causative agent have usually failed; on the other hand, eruptive disease has undoubtedly been transmitted in some cases by inoculation of materies morbi in the form of blood or nasopharyngeal secretions. Sellards concluded that, although according to the literature most of the important symptoms of measles have been described in inoculated animals, it is striking that no single investigator has obtained all features in any one animal or even series of animals, and that no single symptom has appeared with constancy. The characteristic diagnostic features of human measles are sufficiently varied and well recognized to afford helpful assistance to the investigator. One need only recall the period of incubation, the febrile reaction, the Koplik spots, the skin rashes and the leukocyte behavior.

Especially interesting, therefore, are the latest attempts of Blake and Trask [1] at the Hospital of the Rockefeller Institute for Medical Research. They selected a natural path of infection—the intratracheal or respiratory route—and a presumably infective material—the nasopharyngeal secretions of patients in the early stages of measles—for their studies on monkeys. The group of symptoms induced have been constant and definite; and they have been successfully carried through six passages by intratracheal injection of saline emulsions of the skin and buccal membranes of monkeys killed from two to six days after the onset of the reaction. Intravenous injection of citrated whole blood from "passage" animals has likewise induced the characteristic group of symptoms. The cultures of the blood have consistently shown no growth.

Not only does the symptomatology of the reaction induced by inoculation with material containing the virus of measles closely parallel that of human measles, but the lesions are reported by Blake and Trask [2] to be essentially identical in the two species. These findings, considered together with the reported successful transmission of the reaction from monkey to monkey and the elimination of ordinary bacteria as a possible source of error in the interpretation of the results, appear to support the expressed belief of Blake and Trask that the reaction is caused by the inciting organism of measles.

1. Blake, F. G., and Trask, J. D., Jr.: Studies on Measles, I, Susceptibility of Monkeys to the Virus of Measles, J. Exper. Med. **33**: 385 (March) 1921.
2. Blake, F. G., and Trask, J. D., Jr.: Studies on Measles, II, Symptomatology and Pathology in Monkeys Experimentally Infected, J. Exper. Med. **33**: 413 (March) 1921.

**Lethargic Encephalitis in New York State.**—During January, 1921, there were ten deaths from lethargic encephalitis, 1.1 per hundred thousand population, among eighty-three cases reported, an incidence of 9.3 per hundred thousand.—*Bull. N. Y. State Dept. Health*, March, 1921.

# *Current Comment*

## WEST VIRGINIA ADOPTS MODEL LAW

Last week THE JOURNAL announced the passage of the model bill for the registration of births and deaths in Iowa. This week it is a pleasure to record the passage of the bill in West Virginia. Congratulations are due the officials of the state department of health for the constant work for the education of the public and for the stimulation of interest in this measure which has been carried on for the last two years. The passage of the bill by a vote of 65 to 14 in the lower house and by a unanimous vote in the senate is again proof of the fact that satisfactory public health legislation of any kind can be secured only after a lengthy campaign of public education. West Virginia is the forty-fifth state to adopt this law. It remains only for Arizona, Nevada and South Dakota to get in line with the other states to give this country what it has not had: complete and uniform registration of births and deaths.

## VISCERAL PAIN

To every physician the occurrence and nature of pain present problems of signal importance. At present the pain sense is acknowledged to be something specific, not identified with either the tactile or the temperature sense. The sense of pain may be abolished while and where the sense of touch still remains. Analgesia and anesthesia are not identical in character. There was a time when pain was regarded as the sensation derived from overmaximal stimulation of any type of sensory nerve. This interpretation is scarcely tenable, however; for the effects of overstimulation in the case of auditory or optic end-organs are usually described as unpleasant rather than typically painful. Today the belief is well established that pain is definitely associated with the stimulation of certain sensory mechanisms. It seems anomalous that pain may result from changes in organs which are devoid of ordinary sensibility.[1] Thus, the intestine may be cut, sewed or handled without arousing any sensation whatsoever. A strong contraction of the muscular wall or increased distention of the intestine will, however, evoke a griping pain. In the same way the ureters, which are devoid of sensation, can give rise to excruciating agony when they are contracted firmly on a retained calculus. The experiences of the clinician and the direct experimenter in this field are further seemingly contradictory. The one reports pain in the bowel; the other, exploring the abdominal organs, tells us that whereas the parietal peritoneum and mesentery may be the seat of pain sense, the visceral peritoneum and the intestine itself are not. Temperature and tactile sense are lacking everywhere, as indeed they are in the pleura and thoracic organs. The explanations for the seeming discrepancies are divergent.[2] Lennander, for instance, proceeds from the assumption that the viscera are innervated by the sympathetic system, which does not

1. Starling, E. H.: Human Physiology, Philadelphia, 1915, p. 494.
2. Reviews of the subject are given by Neumann: Mitt. a. d. Grenzgeb. d. Med. u. Chir. **13**: 401. Kappis: Ibid. **26**: 493.

include nerves of the pain sense, in contrast with the branches of the cerebrospinal system, which conducts painful sensations. He explains all visceral pains as due to the parietal peritoneum, which contains cerebrospinal nerves, or to stimulation of spinal nerves which are found in the neighborhood of the vertebral column. The most recent contributor to the controversy, Hoffmann [3] of Heidelberg, is convinced that although the visceral organs are for the most part not sensitive to pain, they do exhibit such a sensitivity in certain localities. In these, however, nerve branches can invariably be detected. Even the sympathetic nerves contain centripetal fibers, so Hoffmann maintains, which may serve to conduct sensations of pain. The small number of visceral nerves capable of conducting pain stimuli centrally accounts for the relative infrequency of pain in abdominal operative procedures. The analgesia, however, is only relatively marked, not absolutely general. Without specific fibers pain cannot be perceived; but, if we may believe Hoffmann, its intermediators are more widely distributed than we have been wont to assume.

## THE PUBLIC HEALTH ACTIVITIES OF THE RED CROSS

The League of Red Cross Societies, with headquarters at Geneva, has recently issued a statement respecting its connection with public health work in various parts of the world. The public health department of the league exists for the purpose of bringing to Red Cross societies, and other agencies interested in furthering public health, the counsel and assistance of a body of trained workers in the problems of hygiene and sanitation. Through its trained field staff and its strategic position as a center for the interchange of information between the health workers of various countries, it is in a position to assist in the preliminary study of public health problems in any country whose Red Cross society is affiliated with the league, to aid in the formation of constructive health programs, and particularly to offer counsel in regard to the technic of popular health propaganda and to furnish films, literature and other material adapted for enlisting the support of the community in an active modern health campaign. As is well known, the league has already accomplished much in this direction. During a large part of 1920 the league had a commissioner in Poland, and a considerable number of health workers who aided in every way possible the Polish authorities and the various voluntary organizations in connection with antityphus and other health work. A survey of health conditions in Roumania has been made, setting forth in systematic form a large amount of information regarding conditions in that country. Research on typhus fever was carried on during the early months of 1920 by a group of research workers in Warsaw. A survey of general health conditions in Poland has been made, and an especial study has been made of the child welfare problem in that country. Typhus conditions in Slovakia have also been studied, and similar work has been carried on in Czechoslovakia and Jugoslavia. Provision has been made for a study of antimalaria measures in Italy, and for the organization of an international antimalaria congress. An international school for the special training of qualified nurses has been established by the league in London. Material help was afforded by the league in the organization of the international congress for the revision of classification of causes of death, which met in Paris in October, 1920. Many other health activities of the league are described in the statement referred to. One of the most noteworthy is the foundation of the *International Journal of Public Health*, which is now beginning its second volume. It is evident that the attempt to coordinate the health activities of the nations of the world holds much promise, and may come in time to be a powerful means for counteracting the centrifugal tendencies which have for some years been such a discouraging feature in international affairs.

3. Hoffmann, V.: Ueber Sensibilität innerer Organe, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **32**: 317, 1920.

## A MATTER OF COMFORT AND HEALTH

The closing of a vast number of saloons by the operation of the eighteenth amendment has eliminated a large amount of drunkenness and crime, but with them there departed the more or less savory free lunch and the exceedingly convenient "comfort station." Americans who have seen such stations universally present in Europe in villages, towns and cities have wondered at their scarcity in this country. During recent years, however, there has developed a recognition of the need of "comfort stations," and they have been provided here and there; but they are by no means as universal as they should be. From a public health point of view the necessity for such facilities is well known. Practically, however, their provision is not so much a medical as a plumbing problem. *Domestic Engineering*, a periodical devoted to the plumbing trade, features the subject of "comfort stations" in its current issue. A survey has been made of the facilities for this purpose in 120 American cities. Forty-four per cent. of these cities lack suitable facilities. Research has been made on cost of installation and operation, on various types of devices to be utilized, and on methods of conducting these stations. In many instances the old saloon "station" was a makeshift—insanitary, filthy, often obscene. The modern municipal comfort station is a clean, sanitary, commodious, even beautiful structure. Wisconsin, we are informed, has passed a state law, affecting more than 400 municipalities, making the provision of comfort stations compulsory. Physicians, knowing their importance, both for comfort and for health, will welcome progress of this character.

**Report of Playgrounds and Recreation.**—Four hundred and sixty-five cities conduct playgrounds and recreational centers under paid leadership, according to a recent report of the Playground and Recreation Association of America. Some idea of the growth of the movement is indicated by reports from 151 cities showing an attendance of 400,000 at their winter centers, being an increase of more than 124 per cent. over last year's attendance. Columbus, Ohio, has been given 40 acres of land to be developed into a model outdoor center and play field; Kalamazoo, Mich., 17 acres, located near the center of the city, for playground purposes; Sacramento, a memorial playground, and the recreational facilities of Scranton, Pa., have been largely increased through gifts of private citizens.

# Association News

## THE BOSTON SESSION

### Identification Certificates Required for Special Railroad Fares

Members, who desire to take advantage of special railroad fares announced in THE JOURNAL, March 12 and 19 and April 9, should make request for Identification Certificates —accompanied by an addressed, stamped envelop—to the Secretary of the Association, Dr. Alexander R. Craig, 535 North Dearborn Street, Chicago.

These Identification Certificates are now ready for distribution and they should be secured as early as possible by members who plan to go to Boston. The special railroad fares which have been announced can be secured only on the presentation of these Identification Certificates.

### An All Day Trip to Plymouth on Saturday Following the Scientific Assembly

The Local Committee of Arrangements for the Boston Session is planning what will be a fitting climax for the Session—an all day trip to Plymouth by boat, with a band and other features to make this an attractive outing. This year many will wish to visit Plymouth as it is the celebration of the Three Hundredth Anniversary of the landing of the Mayflower which in addition to the band of pilgrims brought a cargo of spinning wheels, four-poster beds and cradles, some of which will be on exhibition in Plymouth Hall.

The party will leave Boston from under the shadow of the Old North Church early on the morning of Saturday, June 11, for a three-hour sail down the Harbor and Massachusetts Bay. At Plymouth luncheon will be served outdoors. There will be guides who will show the visitors the different sights which have been made famous by Miles Standish, John Alden and others whose names are familiar to all Americans. The Ter-Centennial Committee will have restored Plymouth Rock to its original position long before the time set for this excursion.

This trip will afford an excellent opportunity to see the South Shore on the way down and back. A charge of five dollars will be made which will include the midday luncheon and the boat fare.

### Special Train from Kansas City to Boston

Physicians of Kansas City are arranging for a special Pullman train through to Boston for the American Medical Association session. Those interested should send their names and the number in their party to the Secretary of the Jackson County Medical Society, General Hospital, Kansas City, Mo. Data on routes and schedule will be sent them as soon as determined.

### The Scientific Exhibit

The Scientific Exhibit at the Boston Session will be located in the large galleries on the second floor of Mechanics Hall. Opening from these galleries are three of the section meeting halls, as well as the hall which will be used for the moving picture theater. This arrangement makes the Scientific Exhibit convenient of access to all those in attendance. The floor space and wall space provided are ample. Applications are now coming in, asking for reservations. Space will be assigned about May 1, and each applicant notified of the space assigned to him. Any one desiring space for an exhibit or an assignment of time on the moving picture theater program should make application before that date. No applications can be considered after May 1. Address Director of Scientific Exhibit, 535 North Dearborn Street, Chicago.

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

## CALIFORNIA

**Doctor Sentenced.**—It is reported that Dr. George C. Halliday, superintendent of the Venice General Hospital, has recently been given a suspended sentence of 100 days as a result of pleading "guilty" to a charge of practicing medicine without a license.

**Physician Convicted.**—It is reported that Dr. Reinhart-Allen, who with Dr. Galen Hickok was arrested last August following a raid on the "mystery castle" at Salada Beach and the finding of three young girls recovering from operations, has been convicted on a charge of contributing to the delinquency of a 14-year-old girl. Another charge against Dr. Reinhart-Allen remains to be tried.

**Personal.**—The Alameda County Medical Association entertained at a luncheon in Oakland, April 12, Dr. John M. T. Finney, Johns Hopkins University, who came from Baltimore to deliver an address before the California Academy of Medicine, San Francisco. Dr. Finney also spoke at a luncheon meeting of the Commonwealth Club, San Francisco, April 9, on the discoveries in the science of sanitation and surgery as a result of the World War.——Dr. Alexander M. Lesem, formerly superintendent of the Mission Valley Hospital, San Diego, has been appointed city health officer of San Diego. He will be succeeded at the hospital by Dr. Thatcher Miller. ——Dr. Henry L. Hayes, U. S. P. H. S. Hospital No. 24, Palo Alto, read a paper on "Gastro-Enteroptosis" at a recent meeting of the San Bernardino Valley Medical Society at Redlands.

**Chiropractors Convicted.**—It is reported that seven chiropractors, five of them living in Los Angeles, were found guilty recently of violating the medical practice law. Donald Donovan was fined $250, which he paid. H. A. Berge and D. A. Tracey were fined $100 each but requested that jail sentences be substituted. M. T. Larkin pleaded guilty and was sentenced to ninety days in the county jail. The sentence was suspended for two years. H. Engmark, who preferred being sentenced to ninety days in jail, rather than to pay the fine imposed, then went on a hunger strike. Melville C. Ellis of Long Beach was fined $100. J. F. White, Bakersfield, was found guilty in the superior court.——It is reported that the following chiropractors have recently been convicted of practicing medicine without licenses: Mrs. Vita Reid, Fillmore; T. H. David, Sacramento; John H. Heitman, Whittier; Graham L. Henderson, San Francisco; H. M. Rogge, Santa Monica, and J. Fred Courtney, Long Beach. The three last named chose to serve jail sentences rather than to pay the fines imposed.

**Library on History of Medicine.**—With the aid of a gift from Dr. Adolph Barkan, emeritus professor of the Stanford Medical School, the University is gathering in the Lane Library of the medical school in San Francisco a collection on the history of medicine that will be equaled by no other Western institution. Dr. Barkan will give $1,000 a year for the next three years, to which the university will be able to add from the income from certain Lane Library foundations $1,500 a year, making a total fund of $7,500, all of which will be expended on books concerning the history of medicine. Dr. Barkan himself, is now in Europe and he has employed an expert and has also gained the assistance of one of the most celebrated professors in Europe to aid him in getting together this collection. Dr. Barkan was professor of structure and diseases of the eye, ear and larynx in the medical school and retired from active teaching in 1911. He has before this been a liberal benefactor of the medical school library, having given his own library, dealing with the subjects in his own special field, together with $10,000 as a fund for the purchase of other books on these subjects.

## DISTRICT OF COLUMBIA

**Physicians and Surgeons Participate.**—At the first meeting of the Columbia University alumni held at the University Club, Washington, many physicians and surgeons employed in the various government bureaus participated. Among the number were Rear Admiral William C. Braisted, former surgeon-general of the Navy, Dr. Carl L. Alsberg, chief of the

Bureau of Chemistry, and Dr. Livingston Farrand, American Red Cross. Many other medical graduates of Columbia University were present. The meetings are expected to be continued.

## ILLINOIS

### Chicago

**Human Experiments with Scarlet Fever.**—Last week a sensational account was published in a Chicago evening newspaper, of some proposed experiments to be made at the McCormick Institute for Infectious Diseases. It was stated that twelve persons were wanted who would submit to inoculation with twelve cultures of bacteria isolated from scarlet fever patients. The fact is that volunteers were needed to test out organisms which had been isolated by Drs. George Dick and Gladys Henry Dick. Following publication of the story several hundred persons volunteered for the test. Six persons have been inoculated and are now under observation. The experiments contemplated will require a considerable number of volunteers and no definite time limit can be specified as to the announcement of final results.

## INDIANA

**Muncie Medical Meetings.**—At a meeting of the Delaware-Blackford Medical Association held at Muncie, March 31, Dr. Godlove G. Eckhardt, Marion, read a paper on "Bone Metastasis."——The Muncie Academy of Medicine held two meetings in March. Dr. David Ross, Indianapolis, president of the state medical association, spoke on "Tuberculous Spine or Pott's Disease," March 18, and the March 27 meeting was a symposium on epidemic encephalitis, lead by Dr. Miles F. Porter, Fort Wayne, Dr. Charles F. Neu, University of Indiana, and Dr. William A. Fankboner, Marion.

## IOWA

**Tuberculosis Clinic.**—Dr. John H. Peck, Des Moines, and Dr. Herbert V. Scarborough, superintendent, State Sanatorium for the Treatment of Tuberculosis, Oakdale, assisted at the tuberculosis clinic recently held by the Cerro Gordo County Medical Society at Mason City.

**Medical Books to Be Circulated.**—It is announced that the medical department of the state library will furnish books to any member of the medical profession in the state, provided the user will pay transportation charges. The librarian will prepare bibliographies on special subjects and keep the reader informed regarding new literature on his particular subject.

## KENTUCKY

**Hygiene in High Schools.**—At a meeting of the advisory committee on physical education held in Frankfort, March 18, it was decided to require a full year's work in hygiene of all high school students, the work to be done in the freshman year. The committee believes boys and girls should be in separate classes and that sex hygiene should be taught.

## LOUISIANA

**Malaria Surveys.**—During the year malaria surveys will be made of the districts around Lake Charles, Holly Ridge and Franklin. Half the expense will be borne by the towns to be benefited by the survey and the other half will be contributed by the Rockefeller Foundation.

**Occupation Tax.**—Representatives of the state medical society and the Orleans parish medical society recently appeared before the tax committee at Baton Rouge, and gave as reasons why they should not be placed in the class with trades and made to pay a license tax, that Louisiana is the only state imposing such a levy, that physicians annually give more than $2,000,000 worth of systematic charity to the state, and that the practice of medicine should not be classed as a trade but as a dignified profession.

## MARYLAND

**Death of Professor Hynson.**—Henry P. Hynson, professor of commercial pharmacy and dispensing in the Maryland College of Pharmacy, and one of the best known scientific pharmacists of the country, died recently at his home in Baltimore.

**Personal.**—Dr. Elijah J. Russell, physician to the Baltimore City Fire Department, has returned to duty after a sick leave of two weeks. Dr. Walter F. Sowers, whose temporary appointment during the illness of Dr. Russell was approved by the city service commission, will remain on duty for the present assisting Dr. Russell.

**Dr. Jamar Honored.**—A testimonial dinner recently was tendered Dr. John H. Jamar, Elkton, by physicians of Cecil County on the sixtieth anniversary of his graduation in medicine. Dr. Jamar was presented with a gold-headed cane in recognition of his long span of professional life and as a token of the esteem in which he has always been held by the medical profession.

**Dr. Thayer Resigns from Johns Hopkins University.**—After having filled the position of professor of medicine at the Johns Hopkins University and physician-in-chief of the Johns Hopkins Hospital, for several years, Dr. William S. Thayer has resigned. His resignation is due to his belief that the direction of the department should be in the hands of a younger man. Dr. Thayer will return to his private practice. The resignation does not go into effect for several months, and in the meantime the officials of the hospital will seek his successor.

## MASSACHUSETTS

**Defeat of Anti-Vaccination Bill.**—After having passed the senate by a vote of 20 to 15, on April 5, the anti-vaccination bill was killed in the house by a vote of 21 to 100.

**Use of Schools as Health Centers.**—According to the plan announced by the health commissioner the various school centers will be used as health centers three nights a week from Oct. 15, 1921, to May 15, 1922, and one night a week thereafter until the end of the school session.

## MISSOURI

**Change of Date for Medical Meeting.**—The date of the meeting of the Missouri State Medical Association has been changed from May 17-19 to May 24-26, St. Joseph. The Robidoux Hotel will be headquarters and all meetings and exhibits will be conducted in the hotel.

**Hodgen Lecture on Surgery.**—The St. Louis Surgical Society has established the "Hodgen Lecture on Surgery" in memory of Dr. John T. Hodgen, a former president of the American Medical Association and originator of the Hodgen splint. The first lecture was delivered by Dr. Rudolph Matas of New Orleans, March 26, in the auditorium of the Washington University School of Medicine, his subject being "The Effects of Arteriovenous Aneurysms on the General Circulation in Their Relation to the Symptomatology, Prognosis and Treatment of These Lesions."

**Legislative News.**—The governor has signed the bill removing the word "reputable" from the law governing medical colleges, and vetoed the bill permitting all practitioners of any system of healing recognized by the state, to attend patients in state institutions and all hospitals exempt from taxation. These bills were vigorously opposed by the Missouri State Medical Association, standardized medical colleges, and numerous laymen interested in medical progress, but were strongly supported by the osteopaths, chiropractors, and the low grade medical colleges.——Governor Hyde has also signed the bill passed by the legislature providing for a nonpartisan board of managers consisting of six persons to be appointed by him who shall have entire charge of the state eleemosynary institutions. The emergency clause puts the law into operation at once. The law requires the board to appoint a health supervisor who must be a skilled psychiatrist at a yearly salary of $7,000, with full control of superintendent and employees. The institutions consolidated under this law are the four state hospitals, the sanatorium for incipient tuberculosis, and the colony for the feebleminded.

## NEW YORK

**Provisional Fund for Albany Medical College.**—The trustees of the Albany Medical College announce that a maintenance fund of $30,000 a year has been promised on condition that a similar amount is raised each year by the trustees. The Rockefeller Foundation will give $20,000; the General Electric Company $5,000, and Dr. Charles Alexander Richmond, president of Union University, $5,000. The money this year must be raised by June 1 to make the $30,000 available.

**Proposed Organization of Medical Interests.**—At a recent meeting of the Medical Society of the County of New York, Dr. Byron C. Darling, New York, called attention to the many medical problems and introduced resolutions making

the following recommendations for dealing with the situation: (1) The appointment of a commission to make a comprehensive survey of medical practice including the national and state health departments, charity organizations, hospitals and dispensaries, chambers of commerce and civic associations, industries, and industrial insurance companies; (2) the separate establishment of or arrangement with a weekly journal already in existence for weekly news; (3) the appointment of an executive secretary for the state and county societies.

**Legislative News.** — The Medical Society of Jefferson County, at a special meeting in Watertown, called to consider legislation affecting the medical profession, passed resolutions endorsing proposed legislation to abolish the department of narcotic drug control of the state on the ground that it duplicates the Harrison Federal Narcotic law and is an unnecessary expense to the state; registered a protest against legalizing the practice of chiropractors in the state; opposed the health center bill because it would not accomplish the desired result, would be indirectly under control of the state board of health which was feared would be an entering wedge for state medicine; and disapproved the measure requiring early medical registration.——The Physicians' Protective Association, Ontario County, the Kings County Medical Society, the Professional Guild of Kings County and others are opposing the health center bill.——Brooklyn physicians have endorsed Senator Burlingame's bill to amend the workmen's compensation law by permitting an injured employee to select his own physician and have the costs borne by the employer.——The board of health at Ogdensburg has adopted resolutions requesting legislative representatives from the county and senatorial district to oppose a bill now pending that would admit chiropractors to the practice of medicine.——A bill has been introduced in the legislature which would prevent physicians and surgeons from dividing fees without the consent of the patient.——Representatives from the state health commission, the state medical association and the Albany Medical College, at a recent public hearing before the legislature, attacked the Wiswall bill, which would abolish the present public health council and appoint a new council composed of nine members —one from each judicial district—on the ground that it would bring the health council under political control.

### New York City

**Personal.** — Dr. Amos T. Baker, Elmhurst, has been appointed superintendent and psychiatrist of the Bedford Reformatory for Women.

**Cooperation of National Health Agencies.**—For the purpose of coordinating their work fourteen voluntary national health agencies will centralize their offices in the Pennsylvania Terminal Building where the Federal Board of Vocational Education already has its New York office. The National Health Council, formed last fall, was instrumental in bringing about the centralization. The council will maintain an interorganization information service; a health legislative bureau which will keep council members fully informed on national and state health legislation. It also expects to aid in developing health education material and will foster periodic joint conferences among member organizations.

**Special Medical Courses at Columbia.**—Stimulated by the approaching visit of Mme. Curie and by the progress in experimentation reported by Dr. Francis Carter Wood, a course in cancer research will be given at the Crocker Laboratory during the summer months. The course will deal with the morphology and biology of tumors, and will be under the direction of Prof. W. H. Woglom of the laboratory staff. The course will consist of a series of lectures and laboratory exercises and is intended to give the student sufficient experience to enable him to diagnose all the commoner varieties of tumors. A series of courses in medicine will also be given this summer by the College of Physicians and Surgeons. A course in neural-anatomy will be given by Prof. O. S. Strong; a course in clinical pathology will be directed by Prof. K. M. Vogel, and Dr. P. C. Potter will give instruction in minor surgery and bandaging. There will also be courses in anatomy and bacteriology.

## NORTH CAROLINA

**Personal.** — Dr. W. S. Rankin, secretary, state board of health, is in Baltimore to deliver a series of lectures before the Johns Hopkins School of Hygiene on "Some Problems in Modern Health Work."

**Meeting of State Organizations.**—The sixty-eighth annual session of the Medical Society of the State of North Carolina will be held at Pinehurst, April 26-29, under the presidency of Dr. Thomas E. Anderson, Statesville. The state board of health will also convene at the same time and place, while the state health office's association will hold its eleventh annual meeting on Monday, April 25, preceding the society's session.

**Medical Representatives to Confer with Health Board.**— Dr. W. S. Rankin, secretary, state board of health, has issued an open letter to the county medical societies inviting each to designate a representative to consult with the state board of health at the coming annual session of the state medical society in Pinehurst relative to the matters in common interest, responsibility and concern between the board and the members of the state medical profession. The state laws have provided for more than twenty years for an open conjoint session of the state board of health annually with the state medical society for conference purpose, and Dr. Rankin desires to emphasize the importance to the profession of maintaining an active interest in this conference.

## OHIO

**Illegal Practitioner Fined.**—The Ohio State Medical Board reports that, on March 30, H. W. McFarren of Bowling Green was convicted of illegal medical practice on three counts and fined $25 and costs, in all amounting to $130. McFarren is alleged to have treated numerous diseases and to have prescribed "McFarren Remedies."

**Mental Hygiene Survey.**—At the invitation of the Cincinnati Public Health Federation, Dr. Victor V. Anderson of the National Committee for Mental Hygiene, New York, has come to Cincinnati to take charge of a survey to determine the problems relating to mental diseases, epilepsy and other abnormal mental conditions in Cincinnati and Hamilton County.

## OKLAHOMA

**New Officers of Medical Society.** — At a meeting of the Woods County Medical Association held, March 29, at Waynoka, under the presidency of Dr. Daniel B. Ensor, Hopeton, the recently elected officers—Dr. Ebenezer P. Clapper, Waynoka, president, and Dr. Oscar E. Templin, Alva, secretary-treasurer (reelected)—were installed.

**Tests for Racial Intelligence.** — Mental fatigue tests have recently been made at the Indian schools at Chilocco and Albuquerque, N. M., by Dr. A. E. Garth, psychologic department, University of Texas, to be used in a report on the intelligence of different races to be made before a group of scholars at an international meeting in Toronto, Canada.

## PENNSYLVANIA

**Legislative News.**—The house has passed the bill prohibiting the sale of preparations containing narcotics for the use of children under 12 years.——The Dithrich bill extending provisions of the workmen's compensation act to brothers and sisters and other dependants next of kin was passed after a lengthy debate by a vote of 127 to 48.——Among other bills pending that are of interest to physicians are the Finegan-Martin measure providing for a central board for the control of professional licenses; the Dunn bill providing that no rules or regulations shall be applied by the state bureau of medical education and licensure other than those specifically mentioned in the act creating it; the Trainer bill providing penalties for drug users; and the Steedle bill creating a commission of mental health to replace the state committee on lunacy.

**Personal.**—Dr. John L. Laird, Philadelphia, spoke on the "Relation of the Laboratories to the Physician" at a meeting of the Bedford County Medical Association, held April 6, at Bedford.——Dr. Oskar Klotz, professor of pathology in the University of Pittsburgh Medical School, has been appointed representative of the International Health Board of the Rockefeller Foundation for medical research work and education of São Paulo, Brazil, serving as director of a pathologic institute.——In a series of appointments announced recently, Dr. Edward Martin, state commissioner of health, has named Dr. Arthur Miltenberger as chief of the maternity center at Johnstown; Dr. Louis E. McKee as chief of the genito-urinary clinic at Altoona, and Dr. Lewis H. Seaton, chief of the same clinic at Chambersburg. Medical inspectors of schools named include: Dr. William H. Nix, Pocopson and East Marlboro townships, and Dr. T. L. Moore, West Marl-

boro and New Garden townships, Chester County. Dr. John L. Good was named for New Cumberland, Upper and Lower Allen, Cumberland County.

### Philadelphia

**College of Physicians.**—At a meeting of the section of ophthalmology, April 21, Dr. Robert Scott Lamb, Washington, D. C. (by invitation), made an address on "Retinal Detachment; Suggestions as to Its Treatment," and Dr. Warren S. Reese (by invitation), gave a "Report on Two Cases of Cavernous Sinus Thrombosis."

**Personal.**—Dr. Florence L. Meredith, consultant of the U. S. Public Health Service and a member of the American Medical Association Council on Health Education, has been appointed associate professor of hygiene in the Woman's Medical College of Pennsylvania.——Herbert H. Bunzell, Ph.D., University of Chicago, formerly professor of the University of Cincinnati Medical School, has been appointed associate professor of chemistry in the Woman's Medical College of Pennsylvania.

## TEXAS

**Physician to Serve Penitentiary Sentence.**—It is reported that on March 23 counsel for Dr. G. F. Randle of Houston withdrew the motion for an appeal of his case. Several days previously Dr. Randle had been sentenced to serve a year and a day in the federal prison at Atlanta for violation of the narcotic law.

## WISCONSIN

**State Health Meeting.**—Under the auspices of the hygiene department of the Milwaukee Normal School, cooperating with the U. S. Interdepartmental Social Hygiene Board, the Milwaukee Health Department and the state department of health, there was held a state health congress, April 8-9, at Milwaukee. Among the speakers were Col. Percy M. Ashburn, U. S. Army; Dr. Benjamin F. Simon, St. Paul; Dr. Rachelle S. Yarrows, Chicago; Thomas W. Galloway, Ph.D., New York, and Mr. Willard S. Small, International Hygiene Board, Washington, D. C.

## CANADA

**Meeting of Anesthetists.**—The Canadian Society of Anesthetists is to meet at Niagara Falls, June 1-3.

**University News.**—Although disappointment has been freely expressed at the recent action of the Ontario government with regard to financial support to the Ontario universities, it is understood that the government will come to their immediate relief as follows: the University of Toronto, $900,000; Queen's at Kingston, $325,000; the Western at London, $200,000. These sums will enable all three universities to carry on in the meantime, although the medical department of the University of Toronto in particular frets at the delay owing to the fact that $1,000,000 was in sight from the Rockefeller Foundation.

## GENERAL

**Officials of the Manila Medical Society.**—Drs. H. W. Wade, D. de la Paz, L. Gómez and R. Fernández have been appointed respectively, president, vice president, secretary and treasurer, and member of the "Manila Medical Society."

**American Field Service Fellowships for French Universities.**—Several months ago twenty graduate fellowships for French universities were established named after "the men of the American Field Service who died in France." A report just received gives the awards for the year 1921-1922. Only one of these is in medicine, which was given to Percival Bailey, B.S., Ph.D., University of Chicago, and M.D., Northwestern University, 1918.

**Investigating Health Problems.**—Major-Gen. Wilmott Harringham, Royal Army Medical Corps of England, accompanied by Sir Walter Fletcher of the British Research Council, has arrived in the United States for the purpose of investigating problems connected with medical education and medical progress in this country. Major-General Wilmott will be the guest for several days of Major-General Ireland, Surgeon-General of the Army, at Washington, D. C.

**Science Service.**—In an effort to aid in the dissemination of scientific information by obtaining the best possible quality of popular science writing and presenting it to the largest possible number of readers "Science Service" has been established at Washington, D. C. It is a nonprofit-making corporation and all receipts from the sale of articles, books or films will be devoted to the development of new methods of popular education in science. The charter authorizes "Science Service" to publish books and magazines, to conduct conferences and lecture courses, and to produce motion pictures. Its first conference was held last summer at San Diego, Calif., on the problems of the Pacific, and another on urbanization and ruralization is planned for next summer. The board of trustees is composed of three representatives of the National Academy of Sciences; three, of the American Association for the Advancement of Science; three, of the National Research Council; three, of the Scripps Estate (financial support is assured by Mr. William E. Scripps, Miramar, Calif.), and three representatives of the journalistic profession. Edwin E. Slosson, Ph.D., New York, is the editor and Mr. Howard D. Wheeler, New York, manager.

**Bequests and Donations.**—The following bequests and donations have recently been announced:

Chestnut Hill Hospital, $2,000, by the will of Mrs. Lossa S. Strawbridge.

Methodist, Jewish and Germantown hospitals, Philadelphia, each $5,000, by the will of Elizabeth H. Nice.

University of Cincinnati College of Medicine, a gift of $25,000 to be used as the nucleus of an endowment fund for the establishment of a chair of surgery and anatomy to be known as "The Joseph Ransohoff Professorship of Surgery and Anatomy," from Mrs. Minnie R. Ransohoff, Cincinnati.

Bryn Mawr (Pa.) Hospital, $5,000, by the will of Katherine Lesher.

Jewish Federated Charities, $3,000; Society for Ethical Culture, $2,000, by the will of Morris Langsdorf, New York.

United Hospital Fund of New York, $500,000; Greenwich (Conn.) General Hospital, $100,000; and New York Dispensary, $25,000, by the will of Edmund C. Converse, Greenwich, Conn.

Yale University, New Haven, Conn., a gift of $1,000, for the appointment of a Fellow to investigate the tubercle bacillus under the direction of Prof. Treat B. Johnson of the Department of Chemistry, from the National Tuberculosis Association.

St. Luke's and Roosevelt hospitals, New York, each $100,000; Women's Hospital Association, New York Eye and Ear Infirmary, New York Infirmary for Women and Children, Society for the Relief of Ruptured and Crippled, New York Orthopedic Dispensary and Hospital, each $25,000, by the will of Miss Elizabeth Southmayd.

**Medical Bills Before Congress.**—The reconvening of Congress witnesses the introduction in Congress of numerous bills which failed of passage at the last session. Senator Jones and Mr. Miller have introduced a bill forbidding the exportation of opium and cocain except under certain conditions. It is practically the old Curtis-Rainey bill. It passed the House at the last session, and it is very probable will become a law at this session.——A bill introduced by Congressman French requires that all virulent poisons shipped from one state to another shall be placed in containers bearing the word "poison" and the labels shall contain at least one suitable antidote; and in the case of liquids, the container must be a colored glass roughened bottle of a type prescribed by the Secretary of Agriculture.——Senator Myers has again presented his bill (Senate 758) "To prohibit experiments on living dogs in the District of Columbia or any of the territorial or insular possessions."——Senator Capper has reintroduced the bill to "regulate the practice of osteopathy in the District of Columbia." The same bill has been introduced in the House by Congressman Smith, H. R. 2918.——Senator Owen of Oklahoma has reintroduced the bill to establish a department of health and Senator Kenyon the bill to establish a Department of Social Welfare.——The Fess-Capper bill for the promotion of physical education has again been introduced in Senate and House.——Congressman Butler of Pennsylvania has introduced a bill permitting the Secretary of the Navy to enlarge the Naval Hospital at San Diego, Calif., on land donated to the government, at a cost of $1,975,000.—Senator Spencer of Missouri has introduced a bill to permit the Secretary of the Treasury to sell or exchange the Marine Hospital site in St. Louis, which is no longer suitable for hospital purposes, and from the proceeds of such sale or exchange acquire another tract of land in St. Louis and construct on such new location a government hospital to cost not to exceed $1,625,000.——Congressman Kincheloe has introduced a bill to increase the expenditure for the U. S. Public Health Sanatorium at Dawson Springs, Ky., to $750,000.

## LATIN AMERICA

**Exchange of Fellowships with Mexico.**—A plan for an interexchange of scholarships between Mexican and American universities has just been completed. The Mexican government will pay the transportation, teaching and expenses of twenty American students in Mexico, while 150 Mexicans will receive the same privileges in this country.

**Brazilian Representatives.**—The secretary of war of Brazil has appointed Majors Joao Affonso de Souza Ferreira, Joao

Florentino Meira and Alarico Damazio and Lieut. Manoel Vieira da Fonseca Junior of the army medical corps, to represent Brazil at the International Congress on Military Medicine and Pharmacy which will be held at Brussels in June.

### FOREIGN

**Another Physicians' Strike in Spain.**—The physicians of Avila, Spain, declared a general strike because the authorities refuse to increase their salaries.

**Correction.**—Our German exchanges state that their notice of the death of Prof. G. Gärtner of Vienna—reproduced in THE JOURNAL, p. 1021, was a mistake. Professor Gärtner writes that he is in the best of health.

**Gratitude to Hoover.**—The Vienna Medical Society at a recent meeting elected to honorary membership as token of gratitute for their efforts in promoting the public health of Austria, Mr. Herbert Hoover of Washington, D. C., and Dr. F. Ferrière, the vice president of the International Red Cross, at Geneva.

**Retirement of Netter.**—As Prof. A. Netter of the University of Paris soon reaches the retirement age, his friends and pupils are planning to present him with a testimonial plate. Subscriptions are being received by Dr. Durand, 6 Square Moncey, Paris. A subscription of 40 francs entitles to a bronze replica of the plate, and 100 francs to a silver plated replica.

**Interchange of Professors.**—Prof. T. Lewis of London delivered at Leyden recently the first lecture of the interchange series between England and the Netherlands. His subject was auricular flutter and the electrocardiogram, and he was introduced by Einthoven, the father of electrocardiography.——Faure, Marion and Vaquez have been the French interchange professors at Madrid recently, and Tapia, Goyanes and Gimeno of Madrid have been appointed the interchange professors at Paris, with Ramón y Cajal if his health permits.

**Prizes Offered by Barcelona Academy of Medicine.**—The Real Academia de Medicina y Cirugía of Barcelona offers seven prizes for 1922. The prizes are to be awarded for the best works offered in international competition before Sept. 30, 1921, on the pathogenesis of perinephritis pneumoconiosis, relations between skin disease and changes in the kidneys, original observation on pathology of deranged metabolism, transmission of an epizootic disease to man, an original method of preparing organ extracts, and study of some epidemic in Spain. The competing articles must be in Spanish, French, Italian or Latin, and sent in anonymously to the Secretaría, Baños Nuevos 9, Barcelona, Spain.

**Klinkert's Fiftieth Anniversary.**—On the recent fiftieth professional anniversary of Dr. H. Klinkert of Rotterdam, he was presented with a fund to be called by his name and applied as he might direct. Among the tributes were the decoration of the Order of the Lion, presented by the queen, and engraved addresses from the Utrecht University, the mayor, and others. Klinkert handed over the fund to the Netherlands Antituberculosis Society, asking that the income be appropriated for seashore or other sanatorium treatment for Rotterdam children threatened with tuberculosis. The *Nederlandsch Tijdschrift* relates that his home was "buried under flowers while congratulations rained on it."

**Medical Journal Wins Suit for Slander.**—In 1919, Dr. Bachmann, a *kreisarzt* at Hamm, in his journal, the *Blätter für biologische Medizin*, accused the medical press in general and the *Deutsche* and the *Münchener medizinische Wochenschrifts* in particular of suppressing the freedom of science, and promoting for material reasons things which they could not scientifically endorse, and misusing their prestige and influence for pecuniary reasons. This accusation of corruption roused the *Münchener medizinische Wochenschrift* to action, and the suit it brought to compel the defendant to prove or retract his assertions has just been tried at Munich. The defendant was condemned to a fine of 500 marks and the costs of the case, and was ordered to publish the court decree in full in his journal and also in the *Münchener medizinische Wochenschrift*. The report in the *Münchener medizinische Wochenschrift*, p. 350, states: "The proceedings were very long drawn out on account of the defendant's having summoned such a crowd of witnesses on his behalf. All those whose works have been rejected by the medical press in recent years or who otherwise have a grievance against medical journals were invited by the defendant to testify. It was an actual 'Salon of the Rejected.' Among those present was Dr. Dreuw, the foe of salvarsan, with a suitcase full of documents; Dr. F. F. Friedmann, the 'inventor' of the turtle tubercle bacillus vaccine; Dr. Kleinschrod, the *Kneipparzt;* Dr. Tischner, the homeopathist, and Graf Wieser, the ophthalmologist. Other witnesses speaking for the defendant included Dr. J. Siegel, the discoverer of an alleged causal agent of syphilis; Böing, who leads the fight against vaccination for smallpox; Sanitätsrat Sachs of Breslau, who advocates a bath treatment for wounds, and, lastly, Professor Adamkiewicz of Vienna, the inventor of the cancer remedy Cancroin. The *Wochenschrift* summoned only one witness; this was Professor Mulzer of Munich. As experts, Prof. R. Sauerbruch and Professor von Zumbusch were called on by the court. The result of all the testimony taken was what was to have been expected. The verdict emphasized that the defendant had been unable to prove the truth of a single one of his allegations."

#### Deaths in Other Countries

Dr. **Jacques L. Borelius,** professor of surgery at the University of Lund, secretary of the Surgical Association of the Northland, and one of the three surgeons cooperating on the "Nordisk Haandbog i Kirurgie," now in press.——Dr. **Alfred R. Mandri,** acting assistant surgeon of the U. S. Public Health Service, at Barcelona, Spain.——Dr. **Tomás S. Palomo,** San Salvador, El Salvador, C. A., former candidate for president and well known as surgeon, professor and government official.——Dr. **E. Fraenkel,** privatdozent of gynecology and obstetrics at the University of Breslau until his retirement, and author of numerous works on these specialties, aged 77.——Dr. **Charles Monod,** surgeon *honoraire* of the Paris hospitals and member of the Académie de médecine.——Dr. **L. Gentes,** professor of anatomy at the University of Bordeaux.——Dr. **Jamin,** formerly chief of the Lyons maternity.——Dr. **E. Freise,** privatdozent for pediatrics at the University of Leipzig.

## *Government Services*

### THE MEDICAL RESERVE CORPS, ITS PRESENT STATUS AND PLANS FOR ITS REORGANIZATION

*(Prepared under the direction and published at the request of the Surgeon-General of the Army)*

The war demonstrated that the medical profession must be prepared and organized before the emergency, if it is to be an effective asset to the nation in time of need. The Medical Reserve Corps is the only institution provided by law by which this can be accomplished. Only by careful and thorough organization can the Reserve be ready and become effective without the loss of time and the consequent inefficiency that attends the mobilization of large masses of men, the very process of which demands an organized medical force on the field before the arrival of untrained troops. The mobilization of the man power of the country and its training up to a certain stage of the training schedule are largely medical problems.

Delayed mobilization of medical men; gathering of these without adequate knowledge of their qualifications; prolonged training at camps of instruction; inappropriate and ill-considered assignments to duty; shifts back and forth from post to post and from duty to duty; unjust promotions, inadequate promotion, no promotion—all these have formed the basis of criticism of the late adventure, and the answer is: Unpreparedness.

Can thirty or forty thousand medical men be again called together suddenly and equipped quickly for the work at hand with any other result? The answer is again: Only by preconceived plans—in a word, by organizing.

The law creating the Medical Reserve Corps (the first military reserve this country ever had) was enacted in 1908. Legislation since then, chiefly the national defense act of 1916, and the reorganization act of June 4, 1920, has provided for the creation of a reserve of officers for each department or branch of the military establishment. Within the Medical Department we have the Medical, Dental, Veterinary and Medical Administrative Corps Reserve Sections, with legal authorization for the establishment of a Sanitary Section to be composed of scientific and technical personnel, such as psychologists, sanitary engineers, food and nutrition experts, chemists, hospital architects, laboratory and roentgen-ray technicians, public health licentiates who are not graduates

in medicine, statisticians, and business and technical men engaged in the production of supplies and appliances used by the Medical Department. Many of these were commissioned during the war in the Sanitary Corps, which ceased to exist, Dec. 31, 1920.

Under the law of June 4, regulations governing the organization of the Reserve Corps are being drawn up by a committee composed of Regular Army officers and an equal number of Reserve, National Guard and former officers. These regulations will prescribe rules governing the eligibility, appointment, promotion, assignment and training of Reserve officers. It is expected that these regulations will soon be ready for issue.

PRESENT STATUS OF MEDICAL RESERVE CORPS

Until the present time, only those who served as officers during the World War have been eligible for appointment. Appointments were stopped immediately after the passage of the act of June 4, at which time there were nearly 6,000 in the Medical Section of the Reserve. Appointments were reopened, October 4, but again restricted to those who had service during the World War.

A word of explanation regarding appointments heretofore made: Immediately after the armistice, the appointment of former officers in the Reserve was governed by laws passed during the emergency, and provided for the appointment of officers in any grade. So far as the records at hand show, only three officers have been appointed to a grade more than one grade higher than that held while on duty. The appropriation act of July, 1919, limited the appointment to the same grade or one grade higher than that previously held. The act of June 4, 1920, again changed the law governing the appointment in the whole Reserve, irrespective of departments, and limited the appointment to the same grade or a lower grade than that held in service during the World War. It is hoped that it will be understood, therefore, that many of the seeming inequalities of grade now held by reserve officers are the result of legal restrictions. It is also to be noted that the act of June 4 provides for the promotion, under such rules as the President may prescribe, of officers of the Reserve who have held commissions for at least one year in the next lower grade. A definite plan of promotion in all sections of the Officers' Reserve Corps will be prescribed by the Secretary of War in the regulations soon to be published.

STATUS AND RESPONSIBILITY

It should be understood that, as a reserve officer, one cannot under the law be called to active duty for more than fifteen days a year without his consent except in time of national emergency expressly declared by Congress. The War Department has announced that there will be no training except for volunteers, under the provisions of this law before the end of the next fiscal year (June 30, 1922). Just how extensive will be the practical training of reserve officers will depend on public sentiment as expressed in congressional appropriations. It is hoped that practical training in the duties for which officers are suited and for which they have tentatively been selected in the mobilization scheme will be available to those who wish to volunteer.

The sacrifices made by the medical men of the country during the recent war are fully appreciated by the Surgeon-General, who clearly recognizes the right of each one to reorganize and promote his medical practice without interruption, except that made necessary by a national emergency or for training preparatory thereto.

Those of the Reserve of the Medical Department who served during the World War are considered to have had practical training enough to exempt them from much of the usual training of officers. Problems of mobilization, hospitalization, evacuation, military surgery, sanitation and preventive medicine, however, are matters in which every medical man takes an interest, and in some one or more of these, many reserve officers will desire further experience and training. When the reserve forces are organized into divisions and corps, each Medical Reserve officer will have been assigned to either combat troops or a medical unit, such as medical regiment (old sanitary train), evacuation, surgical, base or special hospital, surgical team, splint team, special duty with the Chemical Warfare Service or Air Service, or as professional consultant or to duties in connection with mobilization and organization of the expeditionary forces. It is hoped that for those who can spare the time, the educational facilities of the Medical Department, especially the Medical Field Service School at Carlisle Barracks, Pennsylvania, will be made available for a limited number during the summer of 1921.

A Reserve Corps Section has been established in the Personnel Division of the Surgeon-General's Office. Under the direction of the Surgeon-General, the reserve officers are being classified according to their record of service, their special qualifications and territorially. Accurate classification is the key note of organization. With the corps classified, the medical service for any required military force can be blocked out and organized for immediate mobilization, with a rational assignment of officers to duty for which they are trained and adapted.

The participation of the medical profession in the organization of the Reserve Corps is necessary and inevitable, and awaits only the adoption of a definite plan of organization governing appointment, assignment, training and promotion. A digest and analysis of the many letters received by the Surgeon-General from former officers clearly show that these matters must be settled in such a way that one will know before joining the Reserve Corps his status, his rights and his responsibilities, as well as the general purpose of the organization. In years to come, the normal recruitment of the Reserve will be through the graduation of members of the Reserve Officers' Training Corps from the units now being established in the various medical schools. In the meantime the corps will be open to former officers whose experience during the war is convincing of the necessity of prewar organization.

## Department of Public Welfare

The creation of a Department of Public Welfare will be one of the constructive acts of the Harding Administration. In his message to Congress President Harding emphasizes the importance of this new department and suggests that Congress pass favorable legislation on the subject. In asking for this legislation, the president in his message said:

> In the realms of education, public health, sanitation, conditions of workers in industry, child welfare, proper amusement and recreation, the elimination of social vice, and many other subjects, the Government has already undertaken a considerable range of activities. I assume the maternity bill, already strongly approved, will be enacted promptly, thus adding to our manifestation of human interest. But these undertakings have been scattered through many departments and bureaus without coordination and with much overlapping of functions which fritters energies and magnifies the cost. Many subjects of the greatest importance are handled by bureaus within Government departments which logically have no apparent relation to them. Other subjects which might well have the earnest consideration of Federal authority have been neglected or inadequately provided for. To bring these various activities together in a single department, where the whole field could be surveyed, and where their interrelationships could be properly appraised, would make for increased effectiveness, economy, and intelligence of direction. In creating such a department it should be made plain that there is no purpose to invade fields which the states have occupied.

## Study Treatment of Leprosy

The U. S. Public Health Service has sent Surg. Herman E. Hasseltine to Honolulu, Hawaii, to take charge of the Leprosy Investigation Station established there by the government for the study of cures of leprosy. Since the establishment of the leprosarium at Carville, La., the U. S. Public Health Service has intensified its investigation of the leprosy treatments that were recently discovered with a view of curing the hundreds of patients that will be assembled at Carville.

## No General Officers for Corps

Recommendations for the appointment of general officers in the Army submitted to the Senate by President Wilson did not include the names of any officers in the Medical Corps of the Army. It was announced at the Surgeon-General's Office that the full complement of general officers in the Medical Department existed and that no promotions were necessary at this time.

## Ask Appropriation for Reserves

An appropriation to cover the pay and allowances of about 100 reserve officers to be called into active service will be asked by the Medical Department of the Army in the new Army Appropriation Bill to be drawn up at the special session of Congress. Should the money be appropriated, the Surgeon-General will call this number of reserve medical officers into active duty in order to give them the advantage of special educational courses now being established in the service.

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

March 28, 1921.

### Another Martyr to the Roentgen Rays

William Ironside Bruce, physician to the roentgen-ray and electrical departments of the Charing Cross Hospital, and an authority on roentgenology, has fallen a victim to his occupation at the early age of 45, after an illness of two months. He was found to be suffering from a severe form of aplastic anemia. It is now becoming recognized that the more penetrating rays derived from the roentgen-ray tube or from radium have an injurious effect on the blood-forming tissues, and set up this form of anemia. Several radium workers and a roentgen-ray worker in Italy are reported to have died from it. Dr. Bruce was among the earliest to use tubes of high penetrating power, and believed that they would greatly enlarge the usefulness of the roentgen ray in the treatment of malignant growths and blood diseases. He fell ill only in January, and the nature of his complaint was understood only a few weeks. Every effort, including the transfusion of blood from a willing donor, was made to save him. He graduated at Aberdeen University in 1900, and served in the South African War, during which he became interested in the use of the roentgen ray in the diagnosis of war injuries. On returning home he became assistant at Charing Cross Hospital to the late Mackenzie Davidson, and remained in the service of the hospital until his death. His writings on roentgenology are well known. The most important is his "System of Radiography with Atlas of the Normal," which he produced early in his career. As a technician and a teacher he stood in the first rank. He was a nephew of Dr. J. Mitchell Bruce, the physician and author of the widely used "Materia Medica and Therapeutics."

In view of the dangers to which roentgenologists are exposed, it has been decided to appoint a committee consisting of physicists, physiologists and roentgenologists to investigate: (1) the changes induced in tissues by the roentgen ray, particularly the blood changes; (2) the properties of the roentgen ray and the best means of controlling their action; (3) to report on the equipment of roentgen ray and electrical departments with a special view to the protective measures employed, and (4) recommendations for the guidance of assistants in those departments, particularly dealing with hours of work and the need for fresh air and change. The progress of roentgenology in this country has been impeded by the want of coordinated research work. It is hoped that money will be subscribed for an institute endowed for research on the physical, technical and biologic sides.

### A Clinic for Birth Control

An institution that is novel in this country—a clinic for birth control—has been founded in London by Dr. Marie Stopes, the author of "Married Love" and other works dealing with sexual subjects. Dr. Stopes is not a physician but a doctor of science. Her object is to furnish mothers of the working class with "the key to personal security and development, to united happiness and success with their husbands in marriage, and to voluntary and joyous motherhood. Birth control knowledge will be given not in the crude repressive form it is advocated in some quarters, but as the keystone in the arch of progress toward racial health and happiness." She points out that the poor woman who is driven into her motherhood blindly, involuntarily and rebelliously is not she who best serves the race. "Well-to-do women have acquired the knowledge how to control nature's inveterate desire for mere crude conception and thus have been spared the strain of incessant pregnancies and the pathos of puny and dying babies."

### The Prevention of Venereal Disease

The National Council for Combating Venereal Disease, in view of recent events and controversies, has adopted the following policy: In the first place, the public must be informed of the prevalence, causes and consequences of venereal diseases. As by far the most important cause is promiscuous sexual intercourse, the question cannot be dealt with apart from social and moral factors, with regard to which all physicians, parents and teachers must feel their separate responsibility. Parents must instruct their children not only with regard to the facts of sex but also in the moral responsibility thereby imposed. The action of public health authorities in dwelling in their publications on the medical prevention to the exclusion of moral considerations is deprecated. The means used to prevent spread of the diseases must not be such as to weaken the deterrents or have any appearance of condonation. At the same time the council recognizes that there are individuals who do not respond to the moral or social appeal and who may not only contract the diseases but infect innocent persons. Infection of these individuals must be prevented so far as possible without condonation. The public recommendation, by advertisement or otherwise, of protective disinfectants must result in giving increased notoriety to quack remedies, and is deprecated. Official instructions as to the use of these disinfectants, issued with the sale, will have the appearance not only of official condonation but also of official guarantee against contracting the disease. Further, such instructions, unless scrupulously followed after definite personal tuition, may aggravate rather than diminish the incidence. On the constructive side, the council urges that strict personal cleanliness, with information as to the part played by dirt and organisms in causing infection of the genital passages, should be inculcated as part of the instruction in sex hygiene. If an individual has incurred the risk of infection he (or she) must be brought to understand that it is his duty to cleanse himself thoroughly and immediately. Only thus can he make such amends as are possible for what is a social as well as a moral offense. The existing cleansing and disinfecting centers should be continued experimentally, subject to careful supervision. The main difference of this policy from that of the rival organization, the National Society for the Prevention of Venereal Disease (THE JOURNAL, Jan. 29, 1921, p. 323) is thus the enjoining of cleansing instead of the use of disinfectants; and yet the two organizations are maintained in sharp antagonism!

### Darwin's Theory of the Origin of Man

Continuing his lectures at the Royal Institution, Professor Keith said that those who were imperfectly acquainted with Darwin's theory expected that a full knowledge of the stages passed through by the human embryo would yield the story of man's descent. They expected to see a passage, step by step, from the lowest to the highest state of the animal kingdom. In a broad sense man did recapitulate his story during development, as Darwin thought; but what had been learned from a full study of man's embryologic history related more to the means which had given him his preeminence than to the route he had traveled to reach it. Those who had watched the preliminary stages of the erection of a modern "skyscraper" could best guess the methods that Nature had followed in fashioning man—the "skyscraper" of the animal world. The builder did not begin by "recapitulating" an evolutionary scale of buildings, but as soon as he had dug the foundations he ran up his scaffolding and cranes to supply the workmen with materials. Nature followed a some-

what similar plan in the erection of the human frame. Careless of historical accuracy, her first effort was to run up a scaffolding to supply nourishment and shelter for the human germ. A remarkable fact, discovered in recent years, was that in fashioning the anthropoid ape she ran up an exactly similar scaffolding. Man and the anthropoids had a monopoly of this type of scaffolding; monkeys were provided with a mere primitive design, and lemurs with a still simpler or earlier type. Some of the human characters were inherited from adaptations arising during the fetal stage. At the sixth month of fetal life the chimpanzee and the human child had the same hairless body and hairy scalp. At birth the chimpanzee became furred all over, while the human baby retained the fetal distribution of hair. The fetal state was not an old, but a new character, and in man had been continued into adult life. Many human characters had thus been acquired, such as the fair skin of the European, and the big heads and small faces of the more civilized peoples.

### An Ambulance Aeroplane

An ambulance aeroplane, the *Vimy*, built by Messrs. Vickers, has been taken over by the air ministry. It is of the color of aluminum and is decorated with a large red cross. It can carry for five hours at 109 miles an hour, one pilot, one mechanic, one physician, one nurse, four stretcher or eight sitting patients and 400 pounds of medical stores. The machine is fitted with two Napier "Lion" engines, giving a total horse power of 900, and is equipped with wireless. The stretcher patients are put aboard through a tunnel in the nose of the aeroplane. Sitting and other patients can be taken in through the side doors. The racks for the stretchers are telescopic, and when not in use are folded against the side of the cabin. The trap in the nose of the machine and ample floor space make it possible to carry a stretcher patient into the aeroplane and place him on the rack without making a right-angled turn and without tilting. Runners are fitted on the floor to facilitate the sliding of stretchers into the cabin. In the front wall of the cabin, opposite the passage way, is a fan which drives the air through a screen kept constantly moistened. This maintains the atmosphere of the cabin at an even temperature and will be particularly useful in hot climates. There is complete lavatory and sanitary accommodation, and equipment for 15 gallons of water. From a storage plant, eight patients can be supplied with oxygen. In case of emergency the ambulance can be flown at 120 miles an hour.

## MADRID

*(From Our Regular Correspondent)*

March 25, 1921.

### Serious Deficiencies in Insane Asylums

Several sessions of the National Academy of Medicine have been devoted to the regrettable condition of Spanish insane asylums. Dr. Fernández Sanz called attention to this subject. Dr. Decref repeated before this society the protests he had published in the newspapers, adding that, in justice to politicians, he should state that the premier and the secretary of the interior, as soon as they heard of the matter, took steps to remedy the defects noted at the Mérida Asylum. Dr. García del Real asked that the schools of medicine should devote more attention to mental diseases. Dr. Pulido laid stress on the need of carrying out a campaign of education. He referred to the many difficulties he had to conquer when trying to suppress public executions. He added that in Spain a religious order, the San Juan Brethren, wants to keep a monopoly on the treatment of insanity. Even acknowledging the importance of religion, it is plain that the treatment of patients is a medical matter and should be entrusted to physicians. Dr. Lafora commented on the campaign he has conducted, following Dr. Pulido, to improve Spanish insane asylums. He referred to the photographs taken personally and shown at the Madrid Ateneo, in which can be seen insane patients, without any clothes, sleeping on rotten straw. The academicians were so impressed by these facts that at the motion of the president they appointed a committee charged with the duty of explaining to the people the need of a reform in Spanish insane asylums and introducing bills in Congress to put an end to the present condition of affairs. In the session of the provincial assembly of Badajoz, held on February 7, Deputies Gomez and Castaño stated that there had been at the asylum of Merida five deaths due to hunger and cold.

### Faure's Subtotal Hysterectomy

Dr. J. L. Faure, professor of the School of Medicine of Paris, has just given at the National Academy of Medicine and the School of Medicine of Madrid two interesting lectures on subtotal hysterectomy. Among its advantages, compared with total hysterectomy, he mentioned simpler technic, less danger of complications, and lower death rate. Owing to the fact that the uterus is fixed in its lower or cervical portion, the subtotal or supercervical hysterectomy is simple. He described the method of Kelly (of Baltimore) and his own two methods: subtotal hysterectomy beginning at the level of the cervix in the posterior aspect, and hysterectomy by uterine semisection. The insertion of the right index finger through the broad ligament below the tube on each side enables him to tie the ovarian vessels easily. The advantages of these three hysterectomies were shown graphically by lantern slides. His lectures were heard with great pleasure. He did some operating at Professor Recasens' clinic in the School of Medicine.

## PARIS

*(From Our Regular Correspondent)*

April 8, 1921.

### Medicosocial Inquiries on Syphilis

The propaganda committee on social hygiene and prophylactic education, to the work of which I referred in previous letters (THE JOURNAL, Aug. 7, 1920, p. 424, and Feb. 26, 1921, p. 601), has undertaken a series of inquiries on syphilis, on the relation of syphilis to tuberculosis, on the relation of syphilis to cancer; also on infant mortality due to syphilis and on the effect of syphilis on the birth rate. Information on these subjects is being sought from physicians direct, the propaganda committee being of the opinion that the campaign against syphilis will not become truly effective until general practitioners shall have enlightened the committee in regard to its spread, its domain and its real dangers. Owing to their wide experience, acquired during the course of many years' practice among all classes of society, general practitioners are the only persons in a position to throw light on these important questions. It is not the purpose so much to collect a large mass of statistics as it is to secure the expert opinion of practitioners by inviting them to communicate the facts that they have observed and by urging them to direct their attention more particularly to certain problems, such as the relation of syphilis to tuberculosis, to cancer, and the like. In order to give uniformity to the observations of practitioners, so that definite conclusions may be drawn from a comparison of their statements, the propaganda committee is sending to physicians uniform lists of questions. As regards hereditary syphilis, the questionnaire includes a "familial inquiry" which embraces these questions: state of health of the parents and grandparents of patients; cause of death of the father, the mother, etc.; has the mother had miscarriages,

stillborn children, children who died in early childhood, or twins? What is the condition of health of the brothers and sisters—diseases, causes of death? As to descendants: miscarriages, stillbirths, children dying in early childhood, twins; condition of health of living children and grandchildren, if any.

### Infant Foods

Dr. Doléris has recently called the attention of the Academy of Medicine to the dangers that result, not only for infants but also for children during weaning, from the use of various prepared milk and farinaceous foods when administered in considerable quantities and made the principal basis of their daily diet. According to the observations of Perrot and Lecoq, it seems to be demonstrated that twenty-two out of twenty-four foods experimented with, all of which are on the market and in general use, are entirely inadequate, of themselves, to provide the necessary nutriment for certain experimental animals, such as the rat, which is omnivorous, as is man, and reacts, from certain alimentary aspects, in the same manner as man. If, then, inadequate to supply the needed nutriment and development, such foods are not entitled to be called "complete foods." A second conclusion is that the complementary ration thus added to the milk diet of the child does not furnish the required vitamins, owing, no doubt, to the complicated method of manufacture of these products. It is therefore a matter of prudence if we do not accord more than moderate confidence to these various products recommended as very favorable for the development of infants and of children during the weaning process—not even under the head of complementary foods—rejecting them absolutely as pretended "complete foods." It will be the part of wisdom to hold to full milk rations, combined with selected appropriate fresh foods. Prudence also indicates the administration to children of a few drops of orange juice, lemon juice or grape juice as a prophylactic against scorbutic avitaminosis. Before manufacturers of such infant foods should have the right to use the term "complete food," they should be required to indicate on the labels the exact proportions that the food contains of the substances essential for physiologic nutrition. The label should also affirm the presence of the indispensable vitamins.

### Care of the War Wounded

The law of March 31, 1919, provides that all expense for medical care, medicines and pharmaceutic supplies in general required by the war wounded shall be borne by the state. But this law did not establish a tariff schedule for such medical care and supplies, and it is only recently that supplementary legislation has made up this deficiency. Unfortunately, the tariff schedule is far from being satisfactory to the medical profession, and the Union des syndicats médicaux de France has recently sent this protest to all practitioners:

WHEREAS, On the one hand, the schedule of charges was not established after an understanding with the medical profession had been reached, being imposed solely by the administration and constituting the first attempt to establish an official schedule of charges;

WHEREAS, The free choice of the wounded and disabled men has not been respected, since they have not the privilege of choosing the physician or surgeon whom they wish to consult and are compelled to go to the hospital from which they were discharged, being thus treated as indigents;

WHEREAS, Not even the schedule of charges that applies to victims of industrial accidents has been adopted, which puts those maimed and disabled through war in an inferior position to the victims of industrial accidents;

WHEREAS, No provision is made either for specialists or for private medical care given by physicians who treat patients in their own apartments;

WHEREAS, Our confrères in the provinces have not been allowed adequate sums for traveling expenses, and

WHEREAS, On the other hand, no one has the right to impose on attending physicians a schedule of charges; therefore, be it

*Resolved*, That, from this date on, the beneficiaries of the said law shall be treated as ordinary clients; in other words, they will pay their physician according to the customary schedule. Physicians will write their prescriptions on the usual blanks. They will refuse absolutely to fill out any governmental papers whatsoever, and they will deliver to their clients stamped receipts, if such are in use, covering fees collected. In case the financial situation of the patient does not permit him to pay his physician, he shall receive nevertheless medical care, and his name will be sent to the Syndicat médical local in order that an inquiry into his case may be made. But even in such cases no governmental papers are to be filled out. All physicians are expected to agitate for this propaganda among their confrères and the beneficiaries of the law. The beneficiaries should be made to understand that the free choice of physicians and surgeons is denied them; also that physicians cannot accept from the administration whatever schedules of charges it chooses to try to impose.

## BERLIN

*(From Our Regular Correspondent)*

March 26, 1921.

### Prophylaxis of Venereal Diseases

Concerning the value of the various preparations used for the prophylaxis of venereal infection there seems to be no settled opinion. At the instance of the Council for the Campaign Against Venereal Disease, in the Prussian ministry for public welfare, a testing of these various preparations has been undertaken in the Institute for Infectious Diseases and in the Public Health Office of Germany. At the last session of the Berlin Society for the Promotion of Public Welfare, Dr. Manteufel (*Regierungsrat*) reported on the experimental studies that he had made on this question in the Public Health Office during the past eighteen months. Manteufel pointed out the difficulties that stood in the way of practical testing of the efficacy of the preparations. For gonorrhea there was a lack of proper experimental animals, and the heavy expense attending the use af apes, or even rabbits, was a drawback in experiments on syphilis. Manteufel therefore resorted to test-tube experiments for gonorrhea. He mixed the preparation to be tested with 50 per cent. human serum, and observed at stated intervals hemolysis of the culture on agar plates. For the testing of the prophylactic remedies against syphilis he used white mice, which were inoculated percutaneously with the spirillum of recurrent fever and their skin then anointed with the remedy. A preparation was regarded as efficacious against gonorrhea if the gonococci were killed within the space of fifteen minutes. In the case of syphilis, prophylactic remedies were considered effective if the percutaneous infection was prevented. The result of the tests was not very satisfactory. In the first place, it was found that the preparations in watery solution were superior to those in the form of bougies or ointments. It was also discovered that many preparations were not stable, as they lost their efficacy when kept in stock some time. Another disadvantage lies in the fact that it is necessary to use two prophylactic remedies, one against gonorrhea and one against syphilis.

The preparations that are directed against the two diseases at the same time have not, thus far, proved reliable. Mercuric chlorid ointment and mercuric cyanid ointment proved the most effective, the latter being less irritative to the mucous membrane. It must be considered, however, that the favorable effect of the mercuric chlorid in the test-tube experiments is partially due to the fact that a portion of the remedy itself is transferred to the agar plate and that thus a checking of the growth of the gonococcus cultures is brought about. The character of the ointment base, which must form an emulsion with the secretion of the mucous membrane of the urethra, is also important. It is also especially important to note that protection against syphilis can be secured only in case the remedy is used before the infection occurs. Experiments have shown that inunction with the disinfecting ointment three minutes after induced infection of the skin failed to have any effect. In the discussion following the address it became evident that opinions in regard to the

practical value of the preparations are still quite divergent. Some speakers called attention to the practical results secured during the war by means of self-protection. Others, however, emphasized the fact that, in spite of prophylactic protection, the prevalence of venereal diseases had increased markedly, for which reason it was the duty of the profession to call the attention of the public to the risk associated with this method of self-protection.

### Personal

Prof. Theodor Schott, for many years prominent as a watering-place specialist at Nauheim, died recently at the age of 70.

## PRAGUE

*(From Our Regular Correspondent)*

April 4, 1921.

### Sanitary Train for Typhus Fight

The American Red Cross loaned to the Czechoslovak government and the Czechoslovak Red Cross the services of a sanitary train to fight typhus fever in eastern Slovakia and Ruthenia. The train consists of six cars containing a hospital of twelve beds, a small operation hall, a pharmacy and ambulances for the transport of patients. The Czechoslovak Red Cross will attach to the train another car with a disinfecting plant. The train equipped with Czech personnel will be sent immediately to Ruthenia.

### Training of Nurses

In the old Austrian times the training of nurses was sadly neglected. Only practical nurses were employed in hospitals and, because these were not adequately paid, the profession did not attract a high class of women. A regular school for nurses was opened in Prague both for Czech and German girls before the war. A considerable effort has been made since the revolution to improve the situation. A school for nurses has been reorganized in Prague under the direction of Miss Marion Parsons of the American Red Cross. A field demonstration of district nursing is being carried on by Miss Pansy Beasom of the American Red Cross. Plans are under way to start a special school for public health nurses, who are especially needed for Slovakia.

### Ministry of Health

The Commission of the Ministry of Public Health and Physical Education, after its return home from a trip to the United States and England under the auspices of the Rockefeller Foundation, has organized a new section in the ministry for the study and reform of public health activities throughout the republic. A scheme for an advisory council and an executive office was approved recently by the council of ministers. The section will also endeavour to demonstrate the value of propaganda and public health education and to develop vital statistics in the field of public health.

## Marriages

ROBERT HUGH COLLINS, Lieut., M. C., U. S. Navy, Washington, D. C., to Miss Florence V. Tonkin of New York, March 26.

JOHN EDWARD WALKER, Major, M. C., U. S. Army, to Miss Emma Marquess Ritch Burgess, both of Washington, D. C., April 1.

FRANKLIN GESSFORD EBAUGH, Trenton, N. J., to Miss Dorothy Reese of Reisterstown, Md., April 9.

JOE VINCENT MEIGS, Boston, to Miss Elizabeth Wallace of Fitchburg, Mass., April 2.

HENRY HENKIN, Chicago, to Miss Goldie A. Joffa of Minneapolis, March 15.

## Deaths

**John G. Jay** ⊕ Baltimore and Mt. Washington, Md.; University of Maryland, Baltimore, 1871; aged 73; emeritus professor of surgery in his alma mater; professor of anatomy and operative surgery from 1882-1891, and surgery from 1891-1902 in Woman's Medical College, Baltimore; surgeon of the Fifth Maryland Regiment during the Spanish-American War; died, April 1, from heart disease.

**Garrett Newkirk,** Pasadena, Calif.; Rush Medical College, 1868; aged 73; well known as a writer on popular subjects; also a dentist; dean of the College of Dentistry, University of Southern California from 1901-1906, and president of the California State Board of Dental Examiners, 1907-1908; died, April 7.

**John Benjamin Roe,** Oregon, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1895; aged 49; a member of the Illinois State Medical Society; lieutenant, M. C., U. S. Army, and discharged, June 6, 1919; died at Wesley Memorial Hospital, Chicago, March 26, from acute nephritis and uremia.

**Frederick Christian Seiberling,** Allentown, Pa.; University of the City of New York, 1862; aged 80; a member of the Medical Society of the State of Pennsylvania; at one time president of the Lehigh County Medical Society; died, April 4, from senile debility.

**Elbridge Gerry Carpenter,** East Greenwich, R. I.; University of Vermont, Burlington, 1874; aged 71; a member of the Rhode Island Medical Society; at one time president of the Kent County Medical Society; died, March 30, from senility.

**James Ferguson,** Rockland, Ont.; University of the City of New York, 1865; aged 83; mayor of Cumberland, Ont., from 1876 to 1880; and for many years health officer of Cumberland, and coroner of Russell County; died, February 10.

**John D. Trahan,** Lafayette, La.; Tulane University, New Orleans, 1867; aged 78; a veteran of the Civil War; at one time a member of the Louisiana State Board of Medical Examiners; died, March 26, from Bright's disease.

**Thomas Patterson Camelon** ⊕ Detroit; Trinity Medical College, Toronto, 1890; Queen's University, Kingston, Ont., 1890; aged 50; major, M. C., U. S. Army, and discharged, April 28, 1919; died, April 7, from pneumonia.

**Charles Lindsey Wright** ⊕ Huntington, Ind.; Rush Medical College, 1886; aged 58; at one time secretary of the board of health of Huntington and surgeon to the Huntington Hospital; died, April 2, from an overdose of opium.

**William H. Baker,** Terre Haute, Ind.; Hahnemann Medical College and Hospital, Chicago, 1882; aged 62; a practitioner of Terre Haute for twenty-five years; died in Chicago, January 23, from carcinoma of the pancreas.

**Carl R. Meloy** ⊕ Detroit; Johns Hopkins University Medical School, 1906; at one time adjunct professor of pathology in the University of Virginia; pathologist to Grace Hospital, Detroit; died, March 29.

**Frank Garten,** New York; Albany (N. Y.) Medical College, 1908; aged 39; a member of the Medical Society of the State of New York; contract surgeon, U. S. Army; died, April 2, from pneumonia.

**James Edwin Callaway,** Chillicothe, Mo.; Eclectic Medical Institute, Cincinnati, 1866; aged 86; one of the organizers and at one time president of the Eclectic Medical Society of America; died, March 28.

**Carl Anderson Arnold,** Des Moines, Iowa; Washington University Medical School, St. Louis, 1914; aged 32; a member of the Iowa State Medical Society; died, April 4, from epidemic encephalitis.

**Frank Young,** Lorain, Ohio; Western Reserve University, Cleveland, 1872; aged 77; at one time a member of the board of education and police surgeon of Lorain; died, February 26, from paralysis.

**Dennis M. Cutright,** Adrian, W. Va.; American Eclectic Medical College, Cincinnati, 1896; aged 54; a member of the West Virginia State Medical Association; died, March 29, from mastoiditis.

**Jerome M. Davis,** North, S. C.; University of Georgia, Augusta, 1889; aged 59; was instantly killed, April 2, when the automobile in which he was riding was struck by a passenger train.

⊕ Indicates "Fellow" of the American Medical Association.

**Joseph Bongartz,** Kingston, N. Y.; College of Physicians and Surgeons in the City of New York, 1886; aged 63; a member of the Medical Society of the State of New York; died, March 28.

**Luther Monroe Sims** ✠ Kalama, Wash.; Rush Medical College, 1888; aged 74; secretary of the Cowlitz Medical Society for five years; at one time a member of the state legislature; died, April 2.

**Thomas W. Bullitt,** River Vale, Ind.; Cincinnati College of Medicine and Surgery, 1874; Hospital College of Medicine, Louisville, Ky., 1875; aged 71; died, February 12, from arteriosclerosis.

**J. H. Baxter,** Sharpsville, Ind.; Kentucky School of Medicine, Louisville, 1875; aged 89; a member of the 140th Indiana Volunteer Infantry during the Civil War; died, March 27.

**Albert A. Parisot,** Mt. Clemens, Mich.; Detroit College of Medicine and Surgery, 1895; aged 56; for many years mayor of Mt. Clemens; died, February 3, from heart disease.

**Edmund Francis O'Reilly,** Lancaster, Calif.; University of Southern California, Los Angeles, 1914; aged 32; was instantly killed, March 16, in an automobile accident.

**Louis Allen Crocker,** Brewster, Mass.; Harvard University Medical School, Boston, 1902; aged 57; a member of the Massachusetts Medical Society; died, January 8.

**John C. Nicholson,** Leesville, S. C.; Maryland Medical College, Baltimore, 1904; Medical College of South Carolina, Charleston, 1907; aged 42; died, about April 3.

**Alfred T. Drake,** Girkin, Ky.; Louisville (Ky.) Medical College, 1872; aged 76; a member of the Kentucky State Medical Association; died, March 28.

**Seth Ward Lacey** ✠ Footville, Wis.; Rush Medical College, 1880; aged 64; one of the founders and president of the Footville State Bank; died, April 2.

**George E. Ellis,** Dunkirk, N. Y.; University of Buffalo, 1891; aged 56; a member of the Medical Society of the State of New York; died, March 14.

**Elmer Harold Maurer** ✠ Ashland, Pa.; Hahnemann Medical College and Hospital, Philadelphia, 1902; aged 40; died in Tampa, Fla., March 29.

**Daniel George Long,** Reading, Pa.; University of Pennsylvania, Philadelphia, 1875; aged 70; died, March 31, from cerebral hemorrhage.

**William Jenks Dudley,** Wilmington, Ohio; Starling Medical College, Columbus, 1901; aged 45; died, February 14, from heart disease.

**Rilla Grafton Hay,** Los Angeles; State University of Iowa, Iowa City, 1873; Denver College of Medicine, 1885; aged 70; died, April 7.

**William H. Rice,** Atlanta, Ga.; Southern Medical College, Atlanta, Ga., 1887; aged 58; died, April 2, from cerebral hemorrhage.

**Llewellyn Coons** ✠ Wichita Falls, Texas; University of Louisville, Ky., 1867; aged 73; died, April 3, from cerebral hemorrhage.

**James Albert White,** Portland, Ore.; State University of Iowa, Iowa City, 1873; aged 71; also a druggist; died, March 27.

**Willis Vincent Buckley,** Hartford, Wis.; Marquette University School of Medicine, Milwaukee, 1915; aged 38; died, March 26.

**Henry H. Carr,** Pitman, N. J.; Homeopathic Medical College of Pennsylvania, Philadelphia, 1885; aged 57; died, March 30.

**Jesse Hicks Hughes,** Nanticoke, Pa.; University of the City of New York, 1892; aged 55; died, March 5, from pneumonia.

**James Jefferson Shell,** Memphis, Tenn.; Vanderbilt University, Nashville, Tenn., 1890; aged 74; died, March 22.

**Jorge Aguilu,** Coamo, P. R.; Jefferson Medical College, 1919; aged 28; died, March 25, from pneumonia.

**Morris Jasper Hill,** Sterling, Ill.; Chicago Homeopathic Medical College, 1878; aged 78; died, March 26.

**James W. McFaul,** Atlanta, Ga.; Atlanta (Ga.) Medical College, 1868; aged 79; died, March 13.

**Charles Louis Hobbs,** San Leon, Texas; Rush Medical College, 1896; aged 45; died, March 19.

**John M. De Weese,** Denver; Baltimore Medical College, 1900; aged 64; died, March 8.

**John E. Inglish,** Bacon, Mo. (license, Missouri, 1884); aged 77; died, March 26.

# *The Propaganda for Reform*

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

## MORE MISBRANDED NOSTRUMS

**Methylax Blue Pearls.**—In April, 1919, William R. Warner & Co. of New York shipped a quantity of a product labeled "Methylax Blue Pearls, Pfeiffer Chemical Co., New York, St. Louis." The Bureau of Chemistry reported that analysis showed this preparation to consist of capsules containing cubebs, methylene blue, and probably copaiba and kava-kava. The preparation was labeled:

"For the treatment of gonorrhea (and its complications) and catarrhal conditions of the urinary tract. Helps to stop mucous discharges. Useful as a urinary antiseptic."

These claims were declared false and fraudulent as the product "did not contain any ingredient or combination of ingredients capable of producing the effects claimed." In June, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8252; issued Jan. 31, 1921.*]

**Jax Capsules and Antiseptic Injection.**—The Tropical Cooperative Company, Jacksonville, Fla., shipped in May, 1919, a quantity of "Jax Capsules" and "Jax Antiseptic Injection." Analyzed by the Bureau of Chemistry the "capsules" were reported to contain powdered cubebs, balsam of copaiba and cornstarch while the "injection" was reported to consist of a solution containing phenol, thymol, methol, boric acid and zinc sulphate. The capsules were labeled:

"A highly efficient treatment for gonorrhea and gleet and other diseases of the bladder and urinary organs."

The injection was labeled:

". . . for gonorrhea and gleet guaranteel not to cause stricture."
". . . efficient remedy for the disease (gonorrhea and gleet)."

These claims were declared false and fraudulent and in May, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the products be destroyed.—[*Notice of Judgment No. 8255; issued Jan. 31, 1921.*]

**Stops It in One Day.**—In April and May, 1919, the O. K. Remedy Co., Brazil, Ind., shipped a quantity of "Stops It in One Day" which the government charged was misbranded. The nostrum was reported by the federal chemists to consist of two preparations: a bottle containing a dilute solution of berberin sulphate and a tube containing a mixture of potassium permanganate and potassium sulphate. The stuff was falsely and fraudulently represented as an effective remedy for gonorrhea, gleet, leucorrhea and venereal diseases of men and women "whereas, in truth and in fact, it was not effective." In March, 1920, judgment of condemnation and forfeiture was entered and it was ordered by the court that the product be destroyed.—[*Notice of Judgment No. 8411; issued March 10, 1921.*]

**Purola Kidney and Liver Remedy, Diarrhea Mixture, Femaline, Sarsaparilla Compound and Compound Extract of Buchu.**—The Blumauer-Frank Drug Co., Portland, Oregon, shipped in February, 1918, a quantity of the drugs just named which the government officials declared were misbranded.

"Purola Liver and Kidney Remedy" was reported by the federal chemists to be a water-alcohol solution consisting essentially of vegetable extractives carrying emodin and resin, potassium acetate, sugars and a faint trace of salicylic acid. It was falsely and fraudulently represented as a cure for Bright's disease, diabetes and diseases of the kidneys and liver, as well as for a number of other conditions.

"Purola Diarrhea Mixture," according to the federal chemists, was a water-alcohol solution of opium, camphor, cap-

sicum extractives, rhubarb, oils of peppermint and anise and indications of a trace of gambir. This was falsely and fraudulently represented as a cure for cholera, cholera morbus, dysentery and bowel complaints generally, "when, in truth and in fact, it was not."

"Purola Femaline" was reported by the Bureau of Chemistry to be a water-alcohol solution containing glycyrrhiza (licorice) extractives, emodin, resin, a trace, of alkaloid sugar, glycerin and aromatics. It was falsely and fraudulently sold as a cure for female weakness and maladies, such as falling of the womb, suppressed menstruation, leucorrhea, etc.

"Purola Syrup Sarsaparilla Compound with Iodide of Potash" was, according to the federal chemists, a water-alcohol solution consisting essentially of vegetable extractives carrying emodin, indications of saponin, glycyrrhizin, alkaloids, volatile oils, sugar, glucose and potassium iodid. It was falsely and fraudulently represented as an effective blood purifier and a cure for scrofulous affections and cutaneous diseases, boils, ring worms, rheumatism, syphilitic and mercurial diseases, etc.

"Purola Compound Extract of Buchu" when analyzed by the federal chemists was found to be a water-alcohol solution of buchu, extractives, sugar, licorice extractives, potassium acetate and little, if any, emodin. It was falsely and fraudulently represented as a cure for Bright's disease, catarrh of the bladder, diseases of the genital organs, etc.

In April, 1920, a plea of guilty was entered on behalf of Blumauer-Frank Drug Co. and the court imposed a fine of $200.—[*Notice of Judgment No 8424; issued March 10, 1921.*]

**Planters Golden Crown Special.**—The Planter Medicine Co., Baltimore, Md., shipped in April, 1919, a quantity of this preparation which was declared misbranded. Analysis showed the product to consist essentially of oil of cassia, methyl salicylate, copaiba, alkaloids of sanguinaria, ethyl nitrite, water and 45.6 per cent. by volume of alcohol. The stuff was declared misbranded, first, because it was labeled "Alcohol 20 per cent." when, as a matter of fact, it contained over 45 per cent. and, second, because it was falsely and fraudulently claimed to be "A Safe and Reliable Medicine for Gonorrhea, Gleet and diseases of a Similar Character . . . for Kidney Troubles. Stone in the Bladder and all aching and painful sensations in the small of the back." It was also fraudulently claimed to prevent stricture. In May, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 8467; issued March 11, 1921.*]

# Correspondence

## "EXPERIMENTAL STUDIES OF EPIDEMIC ENCEPHALITIS"

*To the Editor:*—In your editorial of April 2 on epidemic encephalitis you present rather fully the excellent work of Levaditi and Harvier, but in referring to Loewe and Strauss you mention only that portion of their results which the French authors were unable to confirm. I think this is hardly just to the American workers. The editorial writer in the *Lancet*, February 26, on the other hand, states that "in America the research has advanced rather more rapidly than here and in France," and presents fully the main results of Loewe and Strauss and of Thalheimer. Levaditi and Harvier, themselves, state that "the work of the American authors proves: (1) that the virus of encephalitis is transmissible to the rabbit and the monkey; (2) that the virus is filtrable and may be preserved in glycerin, and (3) that the virus exists not only in the central nervous system but also in the nasopharyngeal secretions." They also contrast the "fully demonstrative" experiments of Loewe, Hirshfeld and Strauss" with the somewhat uncertain report of Wiesner. They seem to regard their work as confirmatory in essential respects of that of the Americans. A similar attitude is reflected by several other continental experimenters, as Ottolenghi (*Policlinico* **25**:39, 1920); Maggiore (*Pediatria* **21**:1, 1920); Micheli (*Riforma Medica* **38**:1, 1921) and others, all of whom frankly recognize the priority of the American contributions. Since the chronologic record shows that our New York colleagues published four communications before any other reports on the matter appeared in medical literature, it would appear that the European scientists had met all the demands of courtesy in referring to the American contributions. Under these circumstances it may cause some surprise that your editorial writer has failed to observe these details.

Of course, the matter of priority is perhaps not of very great importance. As the *Lancet* intimates, these energetic laboratory workers are probably attracted by the fascination of the work, and by the joy of adding something to medical knowledge. There is credit enough for them all. Yet, as a reader of The Journal, which is the leading American medical weekly, I should prefer to have its references historically accurate, its inferences clear, and its estimates as just and frank as those of the *Lancet*, and it is for this reason that I am impelled to write to you about the matter.

James Ewing, M.D., New York.

[Comment.—In addition to the foregoing letter from Dr. Ewing, letters were received from Dr. I. Wechsler and from Dr. Israel Strauss, New York, calling attention to the fact that the editorial referred to had failed to mention all of the work of Drs. Loewe, Strauss and Hirshfeld. Possibly it would have been better if the editorial in question had summarized briefly all the reports of experimental work on epidemic encephalitis. It was restricted intentionally, however, to some of the principal results of the French investigators, and anything like a balanced estimate of previous work with complete references was not contemplated. As the etiology of epidemic encephalitis still is under investigation, there no doubt will be occasion for fuller discussion of the work of various investigators than seemed to be indicated in connection with the review of this particular French work.—Ed.]

## AN IDEAL URETHRAL INSTILLATING SYRINGE

*To the Editor:*—In The Journal (Jan. 15, 1921, p. 176) Dr. Neil Moore, St. Louis, described a new urethral instillating syringe devised by him, which in my opinion does not serve the purpose, as is also the case with those of Guyon, Albarrán and Ultzman. All of the latter have the disadvantage of pistons with leather or rubber washers, fitted into glass tubes and metal barrels, which do not withstand frequent boiling. Dr. Moore's syringe, on the contrary, may be completely sterilized since its cannula is made of silver and the whole syringe is made of glass. It has, however, the disadvantage, besides being somewhat cumbersome, that the adjustment of the cannula, being of metal, will be attacked by solutions of silver salts used constantly for these instillations. Nor can one or two drops of the solution be placed precisely or any one point involved since the top of the piston lacks a screw device to control the passage of the liquid.

In my opinion, any syringe for urethral instillation should consist of a glass tube, with a piston also of glass, in a word, a Luer 5 c.c. syringe, but having a screw piston which would advance gradually by a turning motion so that we might drop, in any specific place along the course of the urethra, a drop or more of the solution, as done with the Guyon syringe. This screw device, all glass, would be ideal; but it must be rather difficult to manufacture since no manufacturer has yet offered such a device. The cannula should

be replaced by an olivary rubber bougie adjusted directly to the piston.

This syringe would have these advantages:

1. Complete sterilization without injury to its parts.

2. A piston that could not be injured by solutions, above all by silver nitrate, the one used most frequently.

3. Regulation of the number of drops required for disinfection or cauterizing any point in the urethra.

4. Doing away with the difficulty always found when a metallic and therefore unbending sound is introduced in a sensitive urethra, which often has friable walls.

NAZARIO V. MONTEJO, M.D., Campeche, Mexico.

### ERROR IN REPORTING PATERSON (N. J.) MORTALITY FROM TYPHOID FEVER

*To the Editor:*—In THE JOURNAL, March 26, in the article on "Typhoid Fever in the United States," "Table 6," deaths from typhoid in cities from 125,000 to 150,000 population, the rates range from 1.4 in Bridgeport, Conn., which heads the list to Paterson, N. J., at the bottom with a rate of 14.7. Commenting on this is the following: "Group 5 (from 125,000 to 150,000 population) has two surprises, first the remarkably low death rate in Grand Rapids after some years of rather disappointing performance, and, second, a rate in Paterson, N. J. (14.7), which is not only much higher than the 1916-1920 average (6.7), but higher than the average for 1911-1915 (9.1)." Here are the facts on record in the office of the board of health for 1920 in relation to typhoid fever: Total number of cases, twenty-two; total number of deaths, two; total number of cases sent from out of town to Paterson hospitals, six; number of cases reported during July, August and September (being the months when rural typhoid is imported into cities by returning vacationists), ten; leaving six cases that may have been caused locally.

J. ALEX BROWNE, M.D., Paterson, N. J.
Health Officer.

[COMMENT.—On receipt of his letter, THE JOURNAL wrote to Dr. Browne that the record returned to us and signed by the secretary of the board of health gives the number of deaths from typhoid in Paterson in 1920 as twenty. On the basis of this, the rate was calculated and printed in our article. To this Dr. Browne replies that the secretary was a new man in the position, and that he (Browne) personally did not see the report that was included in the survey. THE JOURNAL regrets that the mistake should have been made in reporting the number of deaths, and is glad to know that conditions are not what were reported in THE JOURNAL.—ED.]

### "THE EFFECT OF PHOSPHORUS IN RICKETS"

*To the Editor:*—In their paper on rickets in THE JOURNAL, March 26, 1921, Phemister, Miller and Bonar seem to attach too much weight to the value of both cod liver oil and phosphorus. A child suffering from rickets is suffering from nutritional errors. With the exception of one of the cases, reported, there was a radical change of diet for from two to six months, which of itself should be sufficient to account for the improvement. Is it not necessary to carry out similar observations on children in like condition, for the same length of time, *using only proper diet?*

Kerley (Practice of Pediatrics, Ed. 2, p. 116) says: "A child suffering from rachitis is suffering from nutritional errors, as a result of improper feeding or inability to assimilate a suitable food; and I have yet to see a case which will not improve when suitable nourishment can be given and assimilated, regardless of the age of the patient, provided, of course, there is no other disease."

H. ALLEN WHISLER, M.D., Wallace, W. Va.

## *Queries and Minor Notes*

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

### TOXICITY OF ETHER

*To the Editor:*—1. What is the substance which is toxic in ether that has been long exposed to the air?
2. What are the symptoms of such poisoning?
3. Can you refer me to literature concerning the subject?
Please omit my name in case of publication. S. G. W.

ANSWER.—1. Ether exposed to air may take up moisture. In the presence of moisture, oxidation may occur, forming such substances as peroxids and aldehyds. Adequate tests are given in the U. S. Pharmacopeia to detect undue amounts of aldehyds and peroxids.

2. The impurities that may occur in commercial brands of ether may contribute to local irritation, but probably not to dangerous effects. Henderson considers poor ether as more excitant, disposing to acapnia. It has been shown that ether which contains small amounts of acetaldehyd does not induce postanesthetic glycosuria in dogs more readily than pure ether.

3.

Sollmann, Torald: Manual of Pharmacology, 1917, p. 588.
Ross, E. L., and Hawk, P. B.: Postanesthetic Glycosuria as Influenced by Diet, Body Temperature and Purity of the Ether, Arch. Int. Med. **14**: 779 (Dec.) 1914.
Postanesthetic Glycosuria, Purity of Ether and Diet, editorial, THE JOURNAL, Feb. 20, 1915, p. 668.
Variations in Different Brands of Ether, Queries and Minor Notes, THE JOURNAL, April 11, 1914, p. 1190.
Baskerville, Charles: Chemistry of Inhalation Anesthetics, THE JOURNAL, Nov. 23, 1912, p. 1837.

### MILK AND MOLASSES ENEMA

*To the Editor:*—Great difficulty having been experienced in relieving paresis of the bowel, an enema of equal parts of molasses and milk was suggested. This seems to be very efficacious. Can you refer me to any literature on the subject or tell me what the action of this combination is on the colon? JAMES A. GARDNER, M.D., Buffalo.

ANSWER.—The "milk and molasses enema" composed of equal parts of molasses and milk is an old reliable, rather drastic evacuant of the colon. Its action is due chiefly to the fact that molasses, even when present only to the extent of 50 per cent., is a hypertonic fluid, which by abstracting water from the mucous membrane produces so-called "salt irritation," i. e., an irritation analogous to that produced by a saturated solution of magnesium sulphate. Glycerin has a similar effect. The milk probably acts chiefly as a diluent. It is possible that the combination may also act as a lubricant by reason of its viscosity. While not to be recommended for prolonged or frequent use, as it may cause excessive irritability of the colon, it is worth trying when milder enemas fail to produce satisfactory evacuation. For a general discussion of the subject see Fantus' "Useful Cathartics," published by the American Medical Association, price $1.

### THE SOY BEAN

*To the Editor:*—Will you kindly advise whether you have printed any article on the value of soya beans in diabetic diet?
N. E. HELMICK, Seattle.

ANSWER.—Following is a list of references on this subject:

Holmes, A. D.: Digestibility of Steam-Cooked Soy Beans and Peanuts, THE JOURNAL, March 20, 1920, p. 798.
Peanuts and Soy Beans as Human Foods, editorial THE JOURNAL, Oct. 26, 1918, p. 1410.
Osborne, T. B., and Mendel, L. B.: Use of Soy Bean as Food, *J. Biol Chem.* **32**: 369 (Dec.) 1917; abstr. THE JOURNAL, Jan. 12, 1918, p. 127.
Daniels, A. L., and Nichols, N. B.: Nutritive Value of Soy Bean, *J. Biol. Chem.* **32**: 91 (Oct.) 1917; abstr. THE JOURNAL, Nov. 10, 1917, p. 1650.
Friedenwald, J., and Ruhräh, J.: Use of the Soy Bean as a Food in Diabetes, *Am. J. M. Sc.*, December, 1911; abstr. THE JOURNAL, Jan. 7, 1911, p. 70.
The Soy Bean, Its Enzymes and Carbohydrates, editorial, THE JOURNAL, Oct. 16, 1915, p. 1372.

**Exercise and Tuberculosis.**—There is no difficulty in conceiving that an active tuberculous focus works its deleterious influence through the toxins it sheds, and that the inimical effects of bodily exercise depend largely, if not wholly, on its favoring mobilization of the poisonous output.—H. Sewall, *Am. Rev. Tuberc.* **4**:825, 1921.

# Medical Education, Registration and Hospital Service

## COMING EXAMINATIONS

ARKANSAS: Little Rock, May 10. Sec., Reg. Bd., Dr. T. J. Stout, Brinkley. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

GEORGIA: Augusta, June 1-3 and Atlanta, June 8-10. Sec., C. T. Nolan, Marietta.

KENTUCKY: Louisville, May 10. Sec., Dr. A. T. McCormack, Sixth and Main Sts., Louisville.

LOUISIANA: New Orleans, May 3. Sec., Homeopathic Bd., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans. June 9-11. Sec., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

NEBRASKA: Lincoln, June 8-10. Sec., Mr. H. H. Antles, Dept of Public Welfare, State House, Lincoln.

NEVADA: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, May 23-26. Ass't., Professional Examinations, Mr. Herbert J. Hamilton, State Education Bldg., Albany.

OHIO: Columbus, May 31-June 1-3. Sec., Dr. H. M. Platter, State House, Columbus.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

## AN INTRODUCTORY COURSE IN FUNCTIONAL PATHOLOGY FOR SECOND YEAR MEDICAL STUDENTS

W. H. MANWARING, M.D.

Professor of Bacteriology and Experimental Pathology, Leland Stanford Junior University School of Medicine

STANFORD UNIVERSITY, CALIF.

In no field of education have there been more radical changes, during the last thirty years, than in the aims and methods of teaching in the preclinical medical sciences. In the typical medical school of the earlier days these sciences were usually taught by practitioners or by men primarily interested in clinical subjects. The sciences were usually presented with constant references to their clinical applications, and with an undue selection of subject matter of immediate clinical interest. The aim was the imparting of usable facts, rather than the giving of a broad fundamental training in the science in question.

Students trained by these earlier methods were conceivably well prepared for the practical treatment of the simpler forms of disease. Their grasp of clinical phenomena, however, was necessarily superficial, and they usually lacked the breadth of view and fundamental training necessary for investigation. As a result, an undue amount of the fundamental advances in research medicine has been due to the efforts of nonmedical workers.

These defects in the earlier educational methods are now generally recognized. In practically all high type medical schools the preclinical sciences have been taken over by professional workers in preclinical fields who are not primarily interested in their clinical application. These men usually present their subjects from the purely scientific point of view, with emphasis on their inherent scientific interest and educational value. In their hands, the preclinical sciences are rapidly gaining a recognized dignity and educational importance comparing favorably with the nonprofessional university subjects.

There is one fundamental preclinical science, however, that has not yet been removed from the hands of practitioners and developed from the broader scientific point of view. This is the subject of functional pathology (pathologic physiology). Students are usually dependent for their instruction in this field solely on occasional references to underlying physiologic causes in clinical courses. Usually the only physiologic facts emphasized are those of immediate diagnostic importance. In no medical school is the subject of functional pathology presented in its entirety, with emphasis on its intrinsic scientific interest and educational value, the method deemed necessary in all other preclinical sciences. Yet no other preclinical science has the potentialities of functional pathology as an educational instrument and a field of nonclinical research.

Believing that an introductory training in functional pathology should logically precede the clinical courses, I attempted, in 1906, in the University of Chicago, to develop a formal course in this subject for second year medical students. This, I believe, was the first formal course in functional pathology attempted in American medical schools. This early course consisted of twenty lectures and was offered as an elective, parallel with the required course in general pathology. This course has been expanded and repeated several times during the last four years in Stanford Medical School, where it has usually been elected by the entire second year class. During the current year, I have had an opportunity of giving this course in Washington University Medical School, St. Louis. From contact with students in these three institutions, I am led to believe that a formal course of this type would be welcomed by all second year medical students.

The course I now recommend would consist of at least thirty-six lectures or lecture-demonstrations. If time is available, the course should be supplemented by about ten three-hour laboratory exercises. The course would cover, in an introductory way, the entire field of functional pathology, the subject matter being presented from the experimental point of view. The topics selected should not duplicate topics adequately presented in other preclinical courses. The following is an outline of the elective second year course at present offered in Stanford Medical School:

### RECOMMENDED INTRODUCTORY COURSE IN FUNCTIONAL PATHOLOGY FOR SECOND YEAR MEDICAL STUDENTS

1. *Pathologic Physiology of Cutaneous and Mesoblastic Sensations.*—(*a*) Cutaneous and mesoblastic anesthesias, hyperesthesias and paresthesias, disturbances in steriognostic sense; etc.

2. *Pathologic Physiology of Skeletal Muscle.*—(*a*) Pathologic changes in electrical and mechanical excitability, reactions of degeneration, regeneration, etc. (*b*) Pathologic changes in muscle strength, muscle fatigue, muscle tone. (*c*) Motor irritation movements, pathologic changes in voluntary movements (paralyses, paresis, ataxias, incoordinations, motor aphasia), pathologic associated movements. (*d*) Pathologic changes in deep and cutaneous reflexes, effects on voluntary movements, etc.

3. *Pathologic Physiology of Circulation.*—(*a*) Cardiovascular reactions and compensations with reduced oxygen content of blood, reduced carbon dioxid elimination, increased carbon dioxid elimination, etc. (*b*) Cardiovascular reactions and compensations with hemorrhage, experimental plethora, retained excretion products, increased blood temperature, decreased blood temperature, etc. (*c*) Cardiovascular disturbances secondary to irritative and destructive lesions of the peripheral and central nervous systems, increased intracranial pressure, surgical and traumatic shock. (*d*) Circulatory distubrance and compensations secondary to vascular and pericardial lesions (arteriosclerosis, stenosis, aneurysm, pericardial effusion, pericardial adhesion, etc.). (*e*) Circulatory disturbances and compensations for valvular and congenital heart lesions, functional reserve, decompensation. (*f*) Circulatory disturbances and compensations with myocardial lesions, cardiac sensations.

4. *Pathologic Physiology of Respiration.*—(*a*) Respiratory disturbances and compensations with altered oxygen and carbon dioxid tension of respired air, altered oxygen and carbon dioxid carrying capacity of blood, retained excretion products, etc. (*b*) Respiratory disturbances and compensations secondary to cardiovascular lesions, lesions of the peripheral and central nervous systems, etc. (*c*) Respiratory disturbances and compensations secondary to pleural and pulmonary lesions, respiratory sensations.

5. *Pathologic Physiology of Digestion and Absorption.*—(*a*) Pathologic disturbances in salivary and buccal secretion, deglutition, gastric motility. (*b*) Disturbances in gastric secretion, bacterial processes in stomach, disturbances in pyloric action, intestinal secretion, etc. (*c*) Disturbances in intestinal movements, intestinal absorption, intestinal excretion, bacterial processes in intestine, etc. (*d*) Disturbances in defecation, gastro-intestinal sensations, pathology of hunger, etc.

6. *Pathologic Physiology of Metabolism, Internal Secretion, Heat Regulation, etc.* (*a*) Pathologic disturbances in basal metabolism. (*b*) Disturbances in heat regulation. (*c*) Disturbances in hormone control. (*d*) Disturbances in sugar metabolism. (*e*) Disturbances in protein metabolism, protein sensitization. (*f*) Disturbances in lipoid metabolism, vitamin deficiency, etc.

7. *Pathologic Physiology of Excretion.*—(*a*) Disturbances in hepatic function (internal secretion), disturbances in urinary excretion secondary to changes in blood composition, secondary to cardiovascular lesions. (*b*) Abnormalities in renal excretion secondary to renal lesions, lesions of ureter, bladder, etc., renal sensations.

8. *Pathologic Physiology of Reproduction.*—(*a*) Disturbances in sexual instincts, pathologic physiology of pregnancy, prenatal influences, etc. (*b*) Laws of heredity, hereditary pathologic conditions, etc.

9. *Pathologic Physiology of the Special Senses.*—(*a*) Pathologic disturbances in olfactory and gustatory sensations (anesthesias, hyperesthesias, paresthesias, etc.). (*b*) Auditory and labyrinthine sensations. (*c*) Vision.

10. *Pathologic Physiology of Psychical Processes, etc.*—(*a*) Mental tests, mental age, etc. (*b*) Neurosis and psychoneurosis. (*c*) Psychoses.

COMMENT

I believe that at least half of this course should be finished before the student enters on his clinical studies, and that the entire course should be completed by the end of his first trimester of clinical work. Given at this time, the course would serve as a valuable introduction to clinical phenomena and would tend to bridge over the present gap between the preclinical sciences and the clinical subjects. The course, I believe, could be given most advantageously as an independent course, closely correlated with the required course in pathologic anatomy and physical diagnosis. I believe that a course of this nature is of sufficient scientific and educational importance in the preclinical curriculum to warrant the creation of a separate department of functional pathology in the better grade medical schools.

## *Social Medicine, Medical Economics and Miscellany*

### GROUP MEDICINE

I. P. P. HOLLINGSWORTH, M.D.
PHILADELPHIA

Recently there has been a tendency for medical men to associate themselves in groups for practice. This has been particularly true in those smaller towns of the West which are more remote from large clinics. A notable example is the development of group efficiency at Rochester, Minn., which has become a famous clinic. Wherever this formation has taken place, the welfare of the patient, the general character of the medical work, and the status of the practitioners of the community have all been improved. Medicine has been generally conceded to have advanced to a point at which the family physician cannot in many conditions make a thorough examination unaided.

During the last year I had the opportunity, while occupying a disinterested public health position, to observe closely the establishment and development of a group of eleven men in a city of 30,000 population. This group included a laryngologist, a roentgenologist, a pathologist, an obstetrician, a neurologist, two surgeons, an internist and two men doing general work. After a period of six months most of the medical men of the city were willing to admit that this is the ideal way to practice modern medicine. How much better work would be done if the community hospital should be used in this way, just as in the large centers practically the same thing is carried out on an extensive scale in the big hospitals. In the outlying communities of the large cities and in the counties of the different states, there is a great opportunity for organization along these lines.

In order to render such work effective in the community, all the reputable men of the neighborhood should be associated with the group, and not left without the opportunities which such an organization would give them. The community hospital is in reality the proper place for the development of a health center, and should be utilized for this increased scope of usefulness to the public. From a public health standpoint, group medicine is in all probability the most advanced kind of this sort of work, provided the idea of the health center is preserved in addition to that of remedial activities. For instance, in the group referred to above, the pathologist was instrumental in diagnosing a number of cases of diphtheria which would in all probability have previously gone undiagnosed as, through lack of organization and prompt culture facilities, cultures were not always taken. The laryngologist and pediatrician, through public school clinic work, also drew attention to many conditions which needed correction. It has been truly said that the individuals who get the best medical treatment are the very rich and the very poor. Through such group practice the large class of people of small means get the attention which otherwise they go without, as these people in most cases are unable to journey to the large clinics and hospitals in the cities for diagnosis and treatment.

Few men doing general work have the time and facilities to determine basal metabolism, sugar tolerance and similar findings on those patients who require such tests. Such examinations long ago reached a point at which they no longer belong to research work, and have become a part of a thorough practical investigation of the patient. Group practice would readily put these and all similar facilities at the command of all men in the community. Such group work does away with the questionable interpretation of different findings by certain pathologists known as technicians, who are depended on by many men either for reasons of economy, or because a pathologist is not readily accessible for prompt reports.

In a recent paper, Billings[1] of Chicago strongly advocated organization of medicine along such lines, and it may not be long before the general public will demand such work. The day of empiricism has to some extent gone; and while medicine is by no means as yet an exact science, it certainly attempts to use more exact methods than formerly in order to arrive at an intelligent diagnosis. The better posted part of the public already demands such thorough examinations, and as they have acquired the habit of putting everything on trial, when they do not receive a "quid pro quo," they pass judgment accordingly.

The solution of those two clouds on the horizon, state medicine and compulsory medical insurance, may very well lie in the proper medical organization among the men themselves in each community for scientific work which they cannot do alone. Not all men, fortunately can be surgeons or even near surgeons, and the large majority of the younger men are obliged to go into general practice, much as many of them are desirous either to operate or to specialize. Most of the present-day graduates who enter general practice are only too willing and eager to do up-to-date, accurate work, but receive very little encouragement through lack of means and facilities to study their cases properly. Group medicine would afford them such opportunities. It can scarcely be denied that no present-day industry of importance would attempt to operate in such an unorganized state as medicine does in many communities at present, and in this day of efficiency and efficiency experts even the churches are observing the value of proper organization.

Those who have been in works where steel products are manufactured and where power presses are used, will readily understand the difference in power given by one revolving pulley and the immense power generated by the combined action of a series of pulleys. The difference between the combination of all the reputable men of a community with the hospital as the center, and the old way of each man acting as an isolated weak unit, constitutes the advantage of the much to be desired group medicine. The one great stumbling block is conservatism and the inability to break away from the beaten path.

7008 Greene Street.

1. Billings, Frank: The Future of Private Medical Practice, J. A. M. A. **76**: 349 (Feb. 5) 1921.

# Book Notices

THE DETERMINATION OF HYDROGEN IONS. An Elementary Treatise on the Hydrogen Electrode, Indicator and Supplementary Methods with an Indexed Bibliography on Applications. By W. Mansfield Clark, M.A., Ph.D., Chemist, Research Laboratories of the Dairy Division, United States Department of Agriculture. Cloth. Price, $5. Pp. 317, with illustrations. Baltimore: Williams and Wilkins Company, 1920.

A treatise on the determination of hydrogen ions is primarily of interest to the physical chemist. The publishers of Clark's book state, however, that the subject "is so important to botanists, biologists, bacteriologists and medical men" that it is deserving of comment in a medical publication. One would expect, therefore, that the subject matter would be presented in such a manner that those not familiar with the technic of precise physical measurements should, by the knowledge gained from this book, be able to determine the $p_H$ of a solution. With this idea in mind, we have considered Clark's publication.

The first chapter deals with general relations among acids and bases; it is essential for the experimenter who for the first time is endeavoring to think in terms of hydrogen ions [H⁺] to understand some of the fundamental laws discussed in this chapter. But the author's method of presentation is so precipitous that the novice in this subject may soon be lost in a maze of mathematical equations, the reasons for which are not adequately explained. Thus, after a short introduction we find that the effect of dilution of a solution on the hydrogen ion concentration may be represented by the equation:

$$[H^+] = \sqrt{K_a S_a + \frac{K_a}{4}} - \frac{1}{2} K_a$$

which to the average medical laboratory reader will mean little. He wants to know why the square root is or is not taken; if it is not necessary to know this, then why bother the reader with such a cumbersome equation? Again, why is the logarithm used in the reference to $p_H$? The reasons appear simple if explanations are satisfactory.

For the practical determination of $p_H$ there are two methods: (*a*) the use of a series of indicators which give certain color values in respective solutions of certain hydrogen ion concentration, and (*b*) precise physical measurements whereby the potential difference between an electrode of "platinum black" saturated with molecular hydrogen and the hydrogen ions in the solution is determined by electric instruments. The first method is the more practical for the average clinician. Solutions of unknown values are compared colorimetrically with solutions of known $p_H$. The values of the latter solutions are obtained by the electrometric method, so that certain mixtures of salts ("buffer salts") yield fairly constant hydrogen ion concentrations. In the description of these colorimetric methods, the author is at his best. Several years ago Dr. H. A. Lubs synthesized a series of indicators which formed the basis of the exceedingly valuable publications of Clark and Lubs on this subject. The clinical laboratory worker will find the chapters on indicators, buffer solutions and colorimetric determinations interesting and "full of meat," while the directions are presented in such fashion that they may be followed without undue effort.

The colorimetric method, however, has its limitations; for example, the inappropriate employment of an indicator, the presence of certain "salts" or "proteins," interfering colors and the "personal" equation. Even at best it is not exact, though sufficiently accurate for many biologic estimations. Thus, the ultimate and accurate method is the electrometric. Given the proper apparatus, the electrometric method is by no means difficult, provided one has gained a proper amount of experience. The essentials of the apparatus include a hydrogen electrode, a calomel cell and a potentiometer or substitute. The discussion by Clark of the hydrogen electrode is not what a medical man desires. Plenty of theory and references to the literature are present, but there is lacking carefully worked out details. We find an evasiveness on the part of the author as if he himself was not sure as to a satisfactory procedure of deposition of platinum black. For instance: "Another essential in the preparation of a good electrode is that the deposit of black metal be not only even but of proper thickness"; what current densities are needed, the percentage of platinum in solution, the acidity and all such are not given. The treatise on the calomel cell may be subjected to the same type of criticism. The practical (not *research*) laboratory technician wants to know how to prepare a reliable calomel cell; Clark expatiates on the liability of errors, but does not get down to concrete directions. Indeed, if one takes the discussions too seriously, valuable time will be lost preparing pure reagents, although for the average worker the market products should amply meet his requirements.

As a reference compendium to the literature the book is quite complete; the arrangements show the care exercised by the author in compiling the excellent classified appendix. It is rather disappointing, however, to see the advertisements of market instruments included in the bound volume, especially when the author has some rather derogatory remarks to make about the "cheaper" types. As a pioneer contribution to American literature in this relatively new field, the book is decidedly worth while even to the modern clinician. In view of this, however, it is to be hoped that the author will undertake a serious revision of the chapters on the electrometric method so that they will be of more value to those whose training in physical chemistry is somewhat deficient.

DERMATOLOGY. The Essentials of Cutaneous Medicine. By Walter James Highman, M.D. Cloth. Price, $6. Pp. 482, with 95 illustrations. New York: Macmillan Company, 1921.

According to the preface, this work "is dedicated to the novice and to the general practitioner" and "aims to present essentials succinctly, consecutively, completely and simply, without sacrificing important detail." The book, then, should be judged by the purpose which the author has set up for himself—which is a high and difficult one. From this standpoint the work is as successful as could reasonably be expected. It is clearly written, in good English, and the arrangements of various topics are logical. The author has, however, entangled himself in a new classification which does not seem to give essential relations or clinical associations in ways that are more readily grasped than the more familiar ones. The part of the book on general dermatology—symptomatology, etiology, diagnosis, etc.—to which he gives twenty-nine pages, is too short to be satisfactory. What there is is suggestive, but in a book intended for the general practitioner and beginner certainly a clear and adequate outline of the fundamentals of dermatology is needed. One notes that there is nothing said on the pathology of skin in this introduction—and little, indeed, throughout the work; and this is noted with more regret because the author is competent to write a valuable chapter on this subject. The rest of the book is devoted to a detailed consideration of the various dermatoses. This part is well done. Occasionally the author gives an illuminating paragraph, such as his brief discussion on pages 89 and 90 of the essential telangiectases. One would wish that there were more departures like this from the ordinary textbook. The descriptions of diseases are, for the most part, good, and as complete as could be expected in the space at his disposal. Once in a while a description of a common dermatosis seems to be inadequate. From his description of pityriasis rosea, for example, one would not discover that there is a papular type of the disease. One can hardly subscribe to the itching in pityriasis rosea as often very intense, or that bromids need to be prescribed for it. Under pityriasis rosea one finds the sort of generalization that he is inclined to challenge. Highman says: "It occurs prevailingly in the spring and fall in an epidemic manner. Thus it is clearly infectious." It may be infectious, but this is not clear from the fact that it is of seasonal occurrence "in an epidemic manner." The same thing is true of freckles in summer at seaside resorts. But these are hardly fair criticisms, for it is an excessively difficult thing to write the essentials of dermatology or any other large subject. The job has not been done in a masterly manner in dermatology. One is more inclined to criticize Dr. Highman because one feels that he has the large grasp of the subject, the perspective, and the intellectual courage that would be necessary in order to do it. The make-up of the book is good, and the illustrations are excellent. The work will doubtless have success, and it deserves it, for there is no better manual of dermatology.

# Medicolegal

### Malpractice Not Shown in Compound Fracture Case

*(Connelly v. Cone et al. (Mo.), 224 S. W. R. 1011)*

The Springfield (Mo.) Court of Appeals, in affirming a judgment in favor of the defendants, three physicians, says that they were charged with malpractice in reducing and treating a compound fracture of one of the plaintiff's legs, which he, being about 55 years of age, sustained by being thrown out of a buggy. The evidence showed that he fell so that the bones of his leg protruded through the flesh, underwear, overwear and through a rubber boot, and stuck in the ground; that he had to be taken 10 or 12 miles, and it was at least two hours before treatment could be obtained; that while on the ground he and the man who assisted him into the buggy straightened out the broken leg, pulling the bone back into the flesh. There was necessarily a certain amount of dirt, trash and leaves which stuck to the bones and was pulled back into the flesh by them right after the accident, and a couple of hours before the medical aid of the defendants was received. The evidence also showed that there were several pieces of loose bone which remained in the leg. Not a single witness for the plaintiff, expert or otherwise, testified that the treatment of the injury by the defendants was done in a negligent or unskilful manner. The only ground on which it could be contended that there was any negligence shown was that the result of the injury and the treatment in and of itself showed an unskilful and negligent treatment, and the principal fact relied on in this respect was that some thirty days after the physicians had begun to treat the case, and after a serious infection had set up and pus was being emitted from the wound, a piece of leaf the size of a thumb nail came out. It was further shown that small slivers of bone came out of the wound from time to time. Something like sixty to sixty-five days after the injury the defendants told the plaintiff that his leg ought to be rebroken and set properly, but he said that he was not strong enough to stand that. The court considers that there was a failure of proof to show that the plaintiff's misfortune was added to by any negligence or unskilfulness of his physicians. To hold otherwise would base a finding on conjecture pure and simple. The trial court should have granted the defendants' demurrer to the evidence at the close of the case. An instruction to the jury which placed on the plaintiff the burden of proving that he was not guilty of contributory negligence after the physicians had set his leg and were treating it was error; but the court considers that under all of the circumstances, it was harmless error.

### Liability for Injury to Employee from Influenza

*(Engels Copper Mining Co. v. Industrial Accident Commission et al. (Calif.), 192 Pac. R. 845)*

The Supreme Court of California, in affirming an award under the workmen's compensation act, in favor of one Rebstock, says that he was employed at the company's mine as a safety engineer. His duties in that capacity did not require him to give attention to or come into contact with sick employees of the company, at least above ground. When the epidemic of influenza prevailed in the fall of 1918, a very considerable number of the company's employees were attacked. The company attempted to care for those cases in its hospital and in temporary accommodations for that purpose. Among the places so used was Rebstock's office. The number of regular medical attendants and nurses of the company was insufficient to meet the emergency, and Rebstock practically gave up his regular duties, and for some five or six days devoted himself to caring for the influenza patients, bathing them, giving them food and medicine, attending to their wants generally, and having the closest personal contact with them. At the end of that time he himself was taken with the disease, resulting in an affection of the heart which incapacitated him for anything but light work.

The company contended that the exceptional exposure to which Rebstock was subjected, and by reason of which alone it could be claimed that he contracted his illness in the course of his employment, was incurred by him, not in the performance of the duties for which he was employed, but in the performance of services outside his duties, voluntary in nature, and not so much for the benefit of his employer as for that of the little community of which he was a part. But there was evidence in the case which would justify the commission in believing that the company's superintendent had directed Rebstock to assist in caring for the company's influenza patients. This fact at once took Rebstock's services in that respect out of the class of purely voluntary services. Although the services were exceptional, and without the usual scope of Rebstock's employment, they were within its actual scope at the immediate time, because rendered in response to the company's direction. That was sufficient to justify the award so far as that particular point was concerned.

Then the company contended that there was nothing to show that Rebstock contracted his disease by reason of the exceptional exposure to which he was subjected; that it was not at all improbable that he acquired it by reason of the general exposure to which every member of the community was subjected at the time; that it was not possible to determine with any reasonable certainty whatever which exposure was the cause of his illness, and to endeavor to do so was but guessing; and that the award of the commission could not be justified by a mere guess, but in order to be valid required for its support an affirmative showing taking the determination out of the realm of mere conjecture. But absolute certainty as to the fact that the disease was contracted because of the employment and in no other manner was not possible or necessary. All that was required was that degree of certainty on which men may reasonably act, and by which their affairs may reasonably be determined.

# Society Proceedings

## COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.
American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Association of Physicians, Atlantic City, May 10-11.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Society for Clinical Investigation, Atlantic City, May 9.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Arkansas Medical Society, Hot Springs, May 3-5.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
California, Medical Society of the State of, San Diego, May 10-12.
Conference of State and Provincial Health Authorities, Boston, June 3-4.
Connecticut State Medical Society, Hartford, May 18-19.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Illinois State Medical Society, Springfield, May 17-19.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Massachusetts Medical Society, Boston, May 31-June 1.
Michigan State Medical Society, Bay City, May 24-26.
Mississippi State Medical Association, Laurel, May 10-11.
Missouri State Medical Association, St. Joseph, May 17-19.
National Tuberculosis Association, New York, June 13-17.
Nebraska State Medical Association, Lincoln, May 9-12.
New Hampshire Medical Society, Concord, May 25-26.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
North Dakota State Medical Association, Fargo, May 26-27.
Ohio State Medical Association, Columbus, May 3-5.
Oklahoma State Medical Association, McAlester, May 17-19.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
South Dakota State Medical Association, Aberdeen, May 24-26.
Texas, State Medical Association of, Dallas, May 10-12.
West Virginia State Medical Association, Charleston, May 24-26.

# Current Medical Literature

## AMERICAN

Titles marked with an asterisk (*) are abstracted below.

### Archives of Surgery, Chicago

March, 1921, **2**, No. 2

*Relation of Chronic Fibrosis and Thrombophlebitis of Spleen to Conditions of Blood and of Liver. W. J. Mayo, Rochester, Minn.—p. 185.
*Studies in Exhaustion. G. W. Crile, Cleveland.—p. 196.
*Operation for Epiphysitis of Head of Femur (Perthes' Disease). D. B. Phemister, Chicago.—p. 221.
*Prognosis in Prostatectomy. J. B. Deaver and L. Herman, Philadelphia.—p. 231.
*Pelvic Abscess. L. R. Wharton, Baltimore.—p. 246.
*Gynecologic Significance of Appendicitis in Early Life. W. P. Graves. Boston.—p. 315.
*Treatment of Pes Cavus (Hollow Claw Foot). A. Steindler, Iowa City. —p. 325.
*Midline Congenital Cervical Fistula of Tracheal Origin. M. G. Seelig, St. Louis.—p. 338.
*Diverticula of Jejunum. W. I. Terry and F. R. Mugler, San Francisco. —p. 345.
Fracture Reduction and Fixation with a Specially Designed Band. A. W. Collins, San Francisco.—p. 354.

**Fibrosis and Thrombophlebitis of Spleen.**—Careful observation of a considerable mass of material has left Mayo with the impression that generalized splenic fibrosis and thrombophlebitis are the result of many causes, and the pathologic changes in the spleen, the liver and the blood are regularly developed without regard to the primary etiologic factors.

**Studies in Exhaustion.**—The first purpose of Crile's research has been to identify the organs and tissues which are affected by the various causes of exhaustion. The second purpose has been to ascertain whether or not all the known causes of exhaustion produce identical end-effects in the essential organs. The results of his study are summarized by Crile as follows: Prolonged insomnia produces histologic lesions in the central nervous system, the liver and the suprarenals. Prolonged insomnia produces no appreciable alteration in the H-ion concentration of the blood. Prolonged insomnia decreases the electric conductivity of the central nervous system—cerebrum, cerebellum and spinal cord. Sleep repairs the histologic lesions in the central nervous system and in the liver in all cells except those in which the nucleus has become disintegrated. Sleep and rest, if sufficiently prolonged increase the electric conductivity of the cells of the central nervous system to, or above, the normal. Nitrous oxid-oxygen to some extent appears to be an efficient substitute of sleep in its restorative effect on the brain cells.

**Perthes' Disease.**—Phemister's patient was 10 years old. The condition was of five months' duration. The pathologic picture presented at operation was that of a mild synovitis of the hip joint and an old quiescent epiphysitis of the head of the femur with extensive alterations in shape, resulting from breaking down of its center of ossification. The result of operation with curettage of the broken down focus in the head was the gradual filling out of the diseased area by new bone with the disappearance of the roentgenologic signs of active epiphysitis. This indicates the value of operative treatment of the disease. Or if nonoperative treatment is carried out, Phemister says, there should be no weight bearing for many months, because of the collapse which it produces secondary to the broken down center of ossification in the head.

**Prognosis in Prostatectomy.**—In a series of collected cases analyzed by Deaver and Herman the death rate following the perineal operation in 3,286 cases was 10.9 per cent. in contrast to 6.9 per cent. mortality in 4,654 cases following suprapubic prostatectomy. If the patients operated on by the more experienced men among the group, that is, if all series of 100 or more cases are eliminated from the calculation, the average mortality rate rises to between 20 and 30 per cent. The figures indicate that 69 per cent. of all deaths following prostatectomy are due either to uremia, hemorrhage, shock or sepsis. Analysis of the end results of 372 perineal prostatectomies and of 814 suprapubic prostatectomies showed that of these patients 70 and 76 per cent., respectively, are reported as being completely cured. Seventy-eight per cent. of the patients who had undergone perineal prostatectomy and 79.4 per cent. of those who had undergone suprapubic prostatectomy were alive and free from bladder symptoms, two years after operation. The authors state the physical condition of the patient is of major importance and the average result of operation is of only relative importance. However, if the patient desires statistical information, he can be assured that his chances for recovery from the operation, in company with that of fellow sufferers are more than 90 per cent. and that the probabilities of continued life and entire comfort are more than 70 per cent. The death rate steadily increases with advancing years. The duration of the disease is an important prognostic factor, as is the type of preoperative treatment, and the local complications, such as acute urinary retention, from which the patient has suffered.

**Pelvic Abscess.**—The clinical histories of 716 cases were reviewed by Wharton. These patients were treated by vaginal incision and drainage. In ninety-one cases, vaginal incision and drainage was attempted but pelvic abscess was not found. In some of these instances, this operation was performed merely as a diagnostic procedure. In the treatment of the 716 cases, vaginal incision and drainage was employed 871 times and 286 laparotomies were performed. The mortality in cases of pelvic abscess was 5.1 per cent. Taken as a whole, 12 per cent. of the patients with pelvic abscess treated by vaginal incision and drainage have returned either unimproved or with acute exacerbations of their old infections. Twenty-five per cent. of patients with pelvic abscess have apparently been permanently cured by vaginal incision and drainage. These patients have been relieved of all symptoms and have been in perfect health for periods of from three to twenty-five years. Twenty-two per cent. have been improved permanently, and in 56 per cent. this treatment has resulted in ultimate failure in that these patients have not been permanently relieved of their symptoms. In 87 per cent. of these cases permanent sterility has resulted.

**Gynecologic Significance of Appendicitis.**—Graves maintains that appendicitis in childhood and young girlhood is an affection which must be regarded not simply with reference to the diseased appendix itself but to the serious harm which it may exert on the pelvic organs, if left to work out its own destiny in a state of chronic inflammation. Early operation is, therefore, indicated in children when there is any suspicious evidence of appendicular infection. In the acute stage, the appendix should be removed immediately to forestall if possible a secondary involvement of the adnexa. If pus is present, every effort should be made to drain the pelvis, it being feasible in certain cases to drain the pouch of Douglas through the vagina. Excepting in cases of localized abscess it is advisable to make a median line incision in order that the pelvic organs may be inspected, and that any abnormalities of position or plastic adherence may be remedied by a proper surgical procedure.

**Treatment of Pes Cavus.**—Among ninety patients with hollow claw foot operated on by Steindler stripping of the os calcis was done in fifty-nine cases, and stripping and osteotomy in thirty-one cases. The results were quite satisfactory as far as correction of the deformity was concerned. In the earlier operations, the results were frequently not entirely satisfactory because of the incompleteness of the surgical procedure. Later, however, when osteotomy became included more regularly in the operative plan, and arthrodesis was employed in the severe paralytic cases of cavus and calcaneocavus, the operative results of the treatment became sufficiently complete and permanent to warrant the advocacy of this method for the correction of the hollow claw foot deformity.

**Congenital Cervical Fistula.**—Seelig reports a case which he says seems to establish quite clearly the fact that midline congenital fistulas of the neck may be due to tracheal anomalies and that all these fistulas cannot unreservedly be grouped under the head of thyroglossal duct anomalies.

**Diverticula of Jejunum.**—In the case cited by Terry and Mugler, the patient complained of symptoms typical of duo-

dental ulcer. The clinical diagnosis of duodenal ulcer was confirmed by roentgenogram and later at operation. The roentgenograms showed no evidence of jejunal diverticula. At the operation, five diverticula of the jejunum were discovered below the duodenojejunal flexure, all on the concave side of the jejunum, but not between the layers of mesentery. There seemed to be a definite relation between the blood vessels and the diverticula in that the large diverticula had rather large blood vessels running over them and the smaller ones looked as if the blood vessels pierced their apexes. A search of the literature disclosed a recond of twenty-six cases of divertculum of the jejunum.

## Johns Hopkins Hospital Bulletin, Baltimore

March, 1921, **32**, No. 361

*Cause of So-Called Idiopathic Hydrocephalus. W. E. Dandy, Baltimore.—p. 67.
*Roentgenograms of Bones in Diagnosis of Syphilis in Fetus and in Young Infants. P. G. Shipley, J. W. Pearson, A. A. Weech and C. H. Greene, Baltimore.—p. 75
*Internal Migration of Ovum. G. W. Corner, Baltimore.—p. 78.
*Serious Reactions to Repeated Transfusions in Pernicious Anemia. H. M. Bowcock, Atlanta, Ga.—p. 83.
*True Solutions (Phenolsulphonephthalein) and Colloids (Trypan Blue) Injected into Mammalian Embryo. G. B. Wislocki, Baltimore.—p. 93.

**Cause of Idiopathic Hydrocephalus.**—The purpose of Dandy's paper is to present proof of the cause of communicating hydrocephalus, i. e., of that type of hydrocephalus in which all the ventricles are in communication with the subarachnoid space. In the course of intensive studies on the absorption of cerebrospinal fluid in hydrocephalus, it was found that in the communicating type the absorption from the subarachnoid space was greatly reduced. A reduction in the amount of the absorbing spaces which are reached by the cerebrospinal fluid was suspected as the cause and a hypothetical pathology suggested along this line of reasoning. Four cases of communicating hydrocephalus were studied at necropsy, and in each adhesions were found which obliterated the cisterne; hence it was assumed that, by preventing the cerebrospinal fluid from reaching the great absorbing spaces over the cerebral hemispheres, these adhesions had caused the hydrocephalus. That the cause of communicating hydrocephalus (the remnant of so-called idiopathic hyprocephalus) is an obstruction in the cisternae is conclusively demonstrated in three ways: (*a*) Experimentally communicating hydrocephalus can be produced by blocking the mesencephalic cisterna. (*b*) The obstruction can be demonstrated graphically in the experimental animal or at necropsy in the human by injecting a suspension of India ink into the spinal canal; the color stops abruptly at the obstruction. (*c*) In all living patients the obstruction can be shown clearly by cerebral pneumography after air has been injected into the spinal canal; the air also stops at the obstruction, and can be outlined sharply in the roentgenogram. The obstruction in the subarachnoid space is most frequently located in the mesencephalic or pontine cisterna. The obstruction may be in the large branches which carry the fluid from the cisternae chiasmatica and interpeduncularis to the cerebral sulci. Any number of these branches may be occluded. If all the main branches are obstructed, the hydrocephalus will be the same as if the occlusion were in the cisterna. If some of the branches remain unobstructed, the degree of hydrocephalus will be modified proportionately; a complete cure may even result because of the absorption which takes place in the remaining patent areas of the subarachnoid space. Adhesions, which follow meningitis and occlude the cisternae, cause the vast majority of cases of communicating hydrocephalus. They also cause many cases of obstructive hydrocephalus, by blocking the foramina of Luschka and Magendie. Adhesions give infallible proof of a preexisting meningitis. In two cases the hydrocephalus appeared to be due to a congenital failure of the cisternae or of its branches to develop. Tumors in the pons, medulla, or midbrain also produce partial or complete obstruction of the subarachnoid space and therefore cause cummunicating hydrocephalus. Pneumographic records are shown demonstrating the existence of a very early stage of communicating hydrocephalus, the cause of the hydrocephalus, the reason for its unusually tardy development, and for its spontaneous arrest.

**Diagnosis of Syphilis in Fetus.**—The authors have examined about 300 white fetuses ranging in age from the sixth month of intra-uterine life to nearly term with the object of securing as many variations as possible of the normal and pathologic skeletal roentgenograms. Out of the first 100 plates studied, fifteen showed advanced luetic osteochondritis, ten had signs of less marked syphilitic involvement and twenty-one showed one or more bones which presented slight variations from the normal picture and were noted as suspicious. In other words, the skeletons of 25 per cent. had marked signs of syphilis and forty-six out of the first 100 bodies examined had well marked or suspicious lesions. Practically all the bones are involved by the syphilitic process. However, syphilis of the fetus and newly born child apparently, even in advanced cases, interferes very little, if any at all, with skeletal growth.

**Internal Migration of Ovum.**—With the rarest exceptions, all convincing human cases of migration of the ovum are capable of explanation by the external route. No conclusive evidence, clinical or experimental, has been found to show that internal migration occurs, and thus it has remained merely a hypothetical possibility. However, internal migration is still to be regarded as occasionally possible, more especially perhaps in cases of multiple gestation.

**Repeated Transfusions in Pernicious Anemia.**—In certain patients suffering from pernicious anemia, who have been transfused repeatedly, Bowcock states transfusion becomes self-limited because of the inadequacy of methods for selecting suitable donors. This difficulty having once been discovered, no attempt should be made to transfuse these patients. The severe reaction is probably due to an anaphylactic manifestation, and not to hemolysis per se. Blood matching should be carried out with the greatest care; whenever possible, the incubation period should be at least two hours, or longer. Blood serum free from cellular elements may produce bone marrow stimulation.

**Absorption of True Solutions and Colloids from Peritoneal Cavity.**—Experimental observations of Wislocki show that phenolsulphonephthalein which represents an easily diffusible, nontoxic dye, is absorbed from the peritoneal cavity of the fetus. It passes slowly from the fetal blood stream through the placenta into the maternal blood stream and is excreted the maternal kidneys. It is also excreted by the fetal kidneys, since it is found in the fetal urine. This observation demonstrates that the fetal kidneys are capable of excretion, but sheds no light on the extent to which they act as a pathway of excretion before birth. No difference was noted between the cat and the guinea-pig as to the time of transmission of the dye by the placenta, but a marked difference in the time required was observed in individuals of the same species. Trypan blue, a less diffusible, nontoxic colloidal dye, is also absorbed from the peritoneal cavity of the fetus. It is not excreted in the maternal urine, and microscopic examination shows that it is not transmitted by the placenta to the maternal organism. It is excreted by the fetal kidneys. The observations with trypan blue show that the placenta is incapable of transmitting an inert foreign colloid from fetus to mother, and hence it is probable that the placenta does not transmit the colloidal products of fetal excretion unless they are first converted into simpler, readily diffusible, substances. The fetus becomes vitally stained after injections of trypan blue into the fetal peritoneal cavity. The dye is stored in the endothelial cells of the liver, and also accumulates in the ephithelial cells of the renal convoluted tubules. The dye is absorbed by clasmatocytes which occur throughout the fetus and in the placenta and fetal membranes.

## Journal of Experimental Medicine, Baltimore

March 1, 1921, **33**, No. 3

*Effect of Cellular Reaction Induced by Roentgen Rays on Cancer Grafts. J. B. Murphy, R. G. Hussey, W. Nakahara and E. Sturm, New York.—p. 299.
*Effect of Induced Cellular Reaction on Fate of Cancer Grafts. IV. Studies on Lymphoid Activity. J. B. Murphy, R. G. Hussey, E. Sturm and W. Nakahara, New York.—p. 315.
Lymphocyte in Natural and Induced Resistance to Transplanted Cancer. VI. Histologic Comparison of Lymphoid Tissue of Naturally Immune and Susceptible Mice. W. Nakahara and J. B. Murphy, New York. —p. 327.

*General Leukocytic Response of Guinea-Pig During Reaction of Artificial Immunity in Experimental Tuberculous Infection. R. G. Hussey, New York.—p. 337.
Giant Cells in Cultures from Human Lymph Nodes. W. H. Lewis and L. T. Webster, Baltimore.—p. 349.
*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. II. Filterability and Resistance to Glycerol. P. K. Olitsky and F. L. Gates, New York.—p. 361.
Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. III. Studies of Concurrent Infections. P. K. Olitsky and F. L. Gates, New York.—p. 373.
*Studies on Measles. I. Susceptibility of Monkeys to Virus of Measles. F. G. Blake and J. D. Trask, Jr., New York.—p. 385.
*Studies on Measles. II. Symptomatology and Pathology in Monkeys Experimentally Infected. F. G. Blake and J. D. Trask, Jr., New York.—p. 413.

**Effect of Cellular Reaction Induced by Roentgen Rays on Cancer Grafts.**—Small areas of the skin in the groin of mice were subjected to an erythema dose of roentgen rays and a week later a cancer graft was inoculated intracutaneously into the area and at the same time a like graft was inoculated in the same manner in the opposite groin protected from roentgen rays. The graft in the roentgenized area showed a low percentage of takes, while that in the normal skin gave the usual high percentage. When the graft was introduced into the subcutaneous tissues it grew equally as well in the roentgenized area as in the protected area. Histologic examination shows the skin layers, a few days after roentgen-ray treatment, to be markedly infiltrated with round cells of the lymphoid type. The reaction did not extend deeper than the skin layers. It is suggested that this local lymphoid reaction induced by the roentgen rays controls the graft made into the skin, while its absence in deeper tissues accounts for the growth of the grafts more deeply implanted.

Mice sensitized by an injection of 0.2 c.c. rat blood and ten days later inoculated with a mixture of rat blood and a transplantable mouse cancer showed a high degree of immunity to the cancer growth, while mice sensitized in the same manner and inoculated with cancer graft with no rat blood showed no immunity. Likewise, nonsensitized mice inoculated with a mixture of rat blood and cancer cells showed no immunity. Mice sensitized to rat blood and then given a series of doses of roentgen rays between the time of this injection and the inoculation of the cancer-rat blood mixture showed a suppression of the factors affording protection or immunity, since the cancers grew as well in these animals as in the controls. Mice were sensitized with rat blood and ten days later inoculated with a cancer-rat blood mixture. Twenty hours after the inoculation when the cellular exudation was at its height, the cells were destroyed by a local dose of roentgen rays. The degree of immunity was reduced and the cancers grew almost as well as in the controls.

**Leukocytic Response During Reaction of Artificial Immunity in Tuberculosis.**—Guinea-pigs have been rendered relatively immune against infection with virulent tubecle bacilli by preliminary inoculation with a suitable quantity of avirulent tubercle bacilli. Blood counts on these animals show that associated with the immune reaction there is a definite general leukocytic response characterized by an absolute increase in the total count, with an absolute and relative increase in the lymphocytes. The period of greatest activity coincides with that known to be the period of greatest reaction, based on anatomic evidence during the course of infection following this method of immunization. Moreover, blood counts made on animals inoculated with avirulent tubercle bacilli alone show an increase in the circulating lymphocytes during the period of greatest reaction to the infection, while blood counts on guinea-pigs inoculated with virulent bacilli alone show an erratic course in which the polymorphonuclear forms are much increased, though not regularly so.

**Infectivity of Nasopharyngeal Secretions in Influenza.**—An active transmissible agent present in the nasopharynx in early cases of influenza has been found to produce definite and characteristic clinical reactions and pathologic effects in rabbits as already described in an earlier publication. The experiments reported by Olitsky and Gates in this paper indicate that this active agent, as it exists in the nasopharyngeal secretions in man, and in the lungs of rabbits injected with the human secretions, passes through Berkefeld V and N candles. The filtered material produces the same effects on the circulating blood and on the lungs of rabbits as the unfiltered material. The peculiar effects described as arising in the inoculated rabbit may also be induced in guinea-pigs inoculated with the agent. The agent responsible for the reaction on the blood and the lungs of rabbits withstands the action of glycerol in a sterile 50 per cent. solution, for periods up to nine months. In two experiments, after ten and a half months contact, the agent induced no observable changes in the blood and lungs of rabbits.

**Experimental Measles.**—The symptomatology of the reaction induced in monkeys by inoculation with material containing the virus of measles is described by Blake and Trask. The symptoms and course of this reaction closely parallel those of human measles. The microscopic pathology of the lesions of the skin and buccal mucous membrane of monkeys experimentally infected with the virus of measles is also described. These lesions are essentially identical with the corresponding lesions of measles in man.

## Journal of Immunology, Baltimore

March, 1921, **6**, No. 2

Antibody Studies. I. Reversal of Antigen-Antibody Reaction. F. M. Huntoon.—p. 117.
Id. II. The Recovery of Antibody from Sensitized Antigen Technic. F. M. Huntoon and S. Etric.—p. 123.
*III. Chemical Nature of Antibody. F. M. Huntoon, P. Masucci and E. Hannum.—p. 185.

**Chemical Nature of Antibody.**—Present knowledge as to the chemical nature of antibody is summarized by Huntoon et al. as follows: The antibody molecules are of large size, not being dialysable, indicating the colloidal nature of the substance. Antibodies are not affected by trypsin over considerable periods indicating either that they are not protein in nature, or have been racemized by the dilute alkali used, or belong to the peptide group having a carboxyl-amino linkage. Antibodies are not precipitated by solutions containing little or no electrolyte content, indicating that they are not of a euglobulin nature. Antibodies are not soluble in ether, therefore are not of the lipin group. Antibodies free from any gross amount of globulins are not precipitated or affected by a short exposure to 30 per cent. sodium chlorid solution, indicating that they are not of a pseudoglobulin nature. Antibodies are not injured by certain dilute alkalis or acids. Antibodies are not affected by temperature up to 60 C. Higher temperatures progressively destroy or alter their nature. Therefore, antibodies do not belong to that group of proteins usually considered under the head of serum proteins.

## Kentucky Medical Journal, Bowling Green

March, 1921, **19**, No. 3

Syphilis and Central Nervous System. IV. Spirochetes and Neurosyphilis. C. Pope, Louisville.—p. 81.
Epidermophyton Infection. H. H. Koehler, Louisville.—p. 84.
Late Postoperative Obstruction Enterostomy Under Local Anesthesia. W. I. Hume, Louisville.—p. 86.
Economic Problems in Medicine. W. L. Mosby, Bardwell.—p. 88.
Epidemic Encephalitis. T. F. Hale, Louisville.—p. 89.
Syphilis of Central Nervous System; Report of Cases. G. H. Day, Louisville.—p. 95.
Report of Pendleton County Health Board. H. C. Clark, Falmouth.—p. 100.
Pellagra, with Report of Cases. H. G. Stambaugh, Walfpt.—p. 101.
Doctor of To-Day. W. R. Burr, Auburn.—p. 105.
Schick Reaction. W. Z. Jackson, Bardwell.—p. 108.
Fibroma of Nasopharynx. G. C. Hall, Louisville.—p. 110.
Prolapse of Cord Complicating Labor; Report of Two Cases. J. W. Fitch, Louisville.—p. 113.
Cancer of Cervix. G. W. Payne, Bardwell.—p. 114.
Case of Fractured Hip in Patient Aged one Hundred and Six Years. R. T. Pirtle, Louisville.—p. 115.
Recognition and Treatment of Premonitory Signs and Symptoms of Prostatic Hypertrophy. O. Grant, Louisville.—p. 117.
Résumé of Nasal Accessory Sinuses and Their Importance. A. L. Bass, Louisville.—p. 120.
Kidney Cyst and Ectopic Gestation; Case Reports. J. B. Lukins, Louisville.—p. 123.
Malignant Disease of Superior Maxillary Bone. S. G. Dabney, Louisville.—p. 125.
Tubercular Disease of Hip Joint; Appeal for Earlier Diagnosis and Treatment. J. D. Trawick, Louisville.—p. 127.
Unusual Foreign Body (Medicated Bougie) in Urinary Bladder. H. J. Farbach, Louisville.—p. 130.
Tabes Dorsalis in Female Aged Twenty-Nine. S. W. Bates, Louisville.—p. 131.
Surgical Advance. W. E. Senour, Bellevue.—p. 131.
Fallacy of Single Urinary Analysis. J. R. Morrison, Louisville.—p. 135.

## Maine Medical Association Journal, Portland

March, 1921, **11**, No. 8

Public Health Accomplishments and Needs in Maine. L. D. Bristol, Augusta.—p. 243.

## Medical Record, New York

April 2, 1921, **99**, No. 14

Advantage of Mental Therapy in Organic Nervous Disorders. L. P. Clark, New York.—p. 551.
Gallstones. M. Einhorn, New York.—p. 556.
*Two Classifications of Bright's Disease. R. Floyd, New York.—p. 558.
*Temperature Control as Related to Improvement in Milk, Cream and Butter Supplies, and How it Should be Applied. J. M. W. Kitchen, East Orange, N. J.—p. 565.
Malformations of Anus. C. J. Drueck, Chicago.—p. 569.
Concept of Roentgen-Ray Pathology. Dislocations. A. J. Pacini, Washington.—p. 570.

**Classification of Bright's Disease.**—Delafield's classification of kidney diseases made in 1882 and 1903 is compared by Floyd with that of Volhard and Fahr made in 1914. Both classifications constitute a determined attempt to interpret renal symptoms in terms of renal lesions. Both differentiate between the degenerative changes in the tubular epithelium and inflammation of the organs as a whole. Both consider the ubiquitous division of kidney cases into parenchymatous and interstitial as useless, invalid and misleading. Both Delafield and Fahr describe almost precisely the same microscopic lesions of glomeruli, tubes, stroma and blood vessels, although their comprehensions of the pathogenesis and clinical significance of the varying combinations of these individual lesions differ, at times widely. Volhard and Fahr have the advantage of more various and refined histological methods and of all the recent methods of studying renal function, hypertension, etc.

**Temperature Control as Related to Improvement in Milk, Cream and Butter.**—There is not a package of milk or cream or a pound of butter sold today, Kitchen claims, that is as good as it should be, or as good as it can easily be made, because: (1) of the uncertainty that exists in regard to the character of all such products as to infections and toxic contaminations; (2) of the certainty that all such products are more or less contaminated with putrefactive products, and (3) none of these products is of the highest attainable gustatory excellence. Furthermore, none of these products is sold at as low a price as that for which they should be sold. The reason for the existence of this state of affairs is, more than anything else, due to a lack of applying specifically corrective and preventive temperature influences practically continuously between the times of the drawing of the milk, and the consumption of the milk, or the cream and butter derived from the milk. This defect is unquestionably due to ignorance as to the real existing condition and as to how to meet and overcome that condition. One basic reason why such foods are not sold at lower prices, Kitchen says, is owing to the fact of the reprehensible activities of the several cattle breeding associations, breeders, experimental stations, the trade press, and dairy farmers, in unwarrantably holding the idea that an unreasonably large amount of milk production in the cow is a virtue. The world does not need more milk; it needs a lesser amount of milk, but milk of better quality. Galactorrhea in the cow is a disease, as well as in the human female, that results in a decrease of constitutional strength, depleted breeding ability, increased tendency to mammary and other troubles, and sensitivity to the invasion of bovine tuberculosis and other troubles. To counteract even partly such tendencies in high power cows, they must be met by an increased uneconomic feeding of easily digested, high priced grain concentrates and other foods, if the tendencies are to be counteracted and constitutional strength maintained in the cow.

## New York State Journal of Medicine, New York

March, 1921, **21**, No. 3

Type of Cystic Kidney Amenable to Surgical Intervention. F. J. Parmenter, Buffalo.—p. 73.
Symptomatology of Perforated Duodenal Ulcer. R. S. MacDonald, Plattsburg.—p. 79.
Abdominal Incision. C. W. Hennington, Rochester.—p. 81.
Course of Tubercle Bacillus from Sputum to Child. A. K. Krause, Baltimore.—p. 83.
Endoscopy, as Diagnostic Aid in Diseases of Upper Air Passages and Esophagus. C. J. Imperatori, New York.—p. 86.
Advantages of Evisceration Over Enucleation. W. B. Weidler, New York.—p. 90.
Practice of Psycho-analysis. C. P. Oberndorf, New York.—p. 95.
Spinal Concussion; Report of Case. L. Casamajor, New York.—p. 99.

## Philippine Journal of Science, Manila

November, 1920, **17**, No. 5

Studies on Philippine Rubiaceae, IV. E. D. Merrill.—p. 425.
Low Sun Phenomena in Luzon. II. Zenith Observations of Dawn, Baguio, 1920. W. J. Fisher.—p. 487.
Philippine Termites Collected by R. C. McGregor, with Descriptions of One New Genus and Nine New Species. M. Osima.—p. 489.
Occurrence in Philippine Islands of Fresh Water Amphipod Paracalliope Fluviatilis (G. M. Thomson). C. Chilton.—p. 513.
Niphargus Philippensis, A New Species of Amphipod from Underground Waters of Philippine Islands. C. Chilton.—p. 515.

## Rhode Island Medical Journal, Providence

March, 1921, **4**, No. 3

Radical Treatment of Trifacial Neuralgia. F. E. McEvoy, Providence.—p. 37.
Fads in Medicine. F. B. Smith, Washington, R. I.—p. 39.
Cycloplegia in Refraction. F. J. McCabe, Providence.—p. 43.

## Southern Medical Journal, Birmingham, Ala.

March, 1921, **14**, No. 3

Significance of Vertigo. D. Vanderhoof, Richmond, Va.—p. 181.
Whys and Wherefores of Unreliable Wassermann Reports. W. Krauss, Memphis, Tenn.—p. 186.
Chronic Appendictis. E. H. Gaither, Baltimore.—p. 190.
Causes and Management of Athrepsia. W. Weston, Columbia, S. C.—p. 199.
Factors Involved in Medical Inspection of School Children. P. G. Pope, Grenada, Miss.—p. 205.
Head Injuries. L. E. Burch, Nashville, Tenn.—p. 211.
*Effect of Surgical Operations on Blood Pressure. A. McGlannan, Baltimore.—p. 214.
Seminal Vesiculitis: Symptoms, Differential Diagnosis, Treatment and Bacteriological Studies in 1,000 Cases. E. W. White, Chicago, and R. B. H. Gradwohl, St. Louis and Chicago.—p. 223.
Static Conditions of Lower Extremities as Influenced by Circulatory Disturbances. T. M. Foley, Washington, D. C.—p. 232.
Relation of Eye and Certain Skin Diseases. W. T. Davis, Washington, D. C.—p. 237.
Diagnosis of Headaches of Nasal Origin. W. D. Black, St. Louis.—p. 241.

**Effect of Surgical Operations on Blood Pressure.**—A study of the blood pressure records of 1,000 surgical patients showed that the factors required for the production of shock are present in practically all patients undergoing operation under general anesthesia. Trauma, previous devitalization by infection or some other disturbance of nutrition, the effect of ether and chloroform on the chromaffin glands, have all been proved to change the blood pressure as it is changed in shock. With a shocked patient, when the vascular tone is greatly diminished, a sudden change of position can easily add to the severity of the symptoms and may become the determining factor between recovery and death. For this reason such patients should be treated in the operating room, on the table, until a rally occurs. When the patient has a good heart and sound vessels, careful hemostasis, gentle manipulation, nerve blocking and the use of nitrous oxid anesthesia make it possible to perform an operation of long duration without shock. Few experiences in surgery are more dramatic than direct transfusion. Seldom is the immediate effect of a remedy more definitely shown. The ultimate value of transfusion, except after hemorrhage, may be debated, but the immediate result is unquestionably brilliant.

## Surgery, Gynecology and Obstetrics, Chicago

March, 1921, **32**, No. 3

*Methods to Secure End-to-End Suture of Peripheral Nerves. H. C. Naffziger, San Francisco.—p. 193.
*Chemical Influence of Active Constituents of Ductless Glands. E. C. Kendall, Rochester, Minn.—p. 205.
*Thyroid and Its Diseases. C. H. Mayo, Rochester, Minn.—p. 209.
Protection of Patient in Surgery of Thyroid. G. W. Crile, Cleveland.—p. 213.
*Tumors of Kidney. A. Hyman, New York.—p. 216.
Young-Stone Operation for Urethrorectal Fistula. Report of Three Cases. E. G. Davis, Omaha.—p. 225.
*Surgical Treatment of Suppuration in Posterior Mediastinum. W. Lerche, St. Paul.—p. 232.
Differentiation of Saphenous Varix from Femoral Hernia. D. W. Stetten, New York.—p. 235.
*Reconstruction of Hand: A New Technic in Tenoplasty. R. T. Taylor, Baltimore.—p. 237.

Chronic Endocervicitis. H. B. Matthews, Brooklyn.—p. 249.
*Epicondylitis Humeri. L. Carp, New York.—p. 257.
*Abscess of Prostate. H. L. Kretschmer, Chicago.—p. 259.
Pregnancy with Death of Fetus and Failure of Efforts at Spontaneous Delivery, Resulting in Macerated Fetus and Perforation of Abdominal Wall; Operative Removal; Recovery. F. R. Crawford, Kashing, China.—p. 269.
*Simple Incision for Operations on Gasserian Ganglion. F. E. McEvoy, Rochester.—p. 271.
*Pin Method for Approximation of Fragments in Fractured Patella. Hertzler, Halstead, Kan.—p. 273.
Sling Suspension Method of Exercise in Infantile Paralysis. F. J. Gaenslen, Milwaukee.—p. 274.
*Plaster Rope Cast. Efficient Splint for Infected Fractures of Leg. A. E. Gordin, Jackson, Miss.—p. 276.

**Suture of Peripheral Nerves.**—Naffziger discusses this subject in all its phases. He believes that free nerve grafting from the same individual is the most rational method of filling unbridgeable gaps but that resort to it should be made only after all methods of obtaining end-to-end suture have proved ineffectual. Of the method found most useful in obtaining apposition of the divided nerve ends are: (1) free mobilization of the proximal and distal portions of the nerve; (2) transposition of the nerve to a shorter route than the normal one; (3) favorable posture of the extremity to shorten the distance to be overcome, and (4) gradual lengthening of the nerve by a two-stage operation.

**Chemical Influence of Ductless Gland Constituents.**—In the study of the ductless glands, Kendall says, clinician is guided by the end results of physiologic processes. He is compelled to study these processes indirectly. However, these physiologic processes are carried on by definite chemical substances, and when the chemist deals with these compounds he is working in an exact science. The slightest deviation from the necessary chemical structure destroys the value of the substance. It is a case in which "something just as good" will not do. In the cooperation between the chemist and the clinician what will be the greatest aid to the clinician is the isolation of each of the active constituents of all the ductless glands with the determination of their exact chemical influence on the animal organism.

**Thyroid Disease.**—In the Mayo Clinic during 1919, 1,707 of 2,205 operations on the thyroid were performed with ether anesthesia, 135 with procain and 363 by combined methods. The old vicious circle of late operation and high mortality and the high mortality conducing to a late operation has been largely overcome. More and more patients with hyperthyroidism are seen early; and the natural risks are thereby greatly reduced. Now only about 20 per cent. of these patients come in the late stages. The consequent reduction in mortality is not wholly due to the surgeon's increased ability and technic, but partially to the general advance of professional knowledge and to the diagnostician's cooperation.

**Tumors of Kidney.**—Of forty cases of renal tumor which came to operation, twenty-eight were hypernephromas. The three cardinal symptoms of renal tumor presented in this series were: (1) hematuria, the most frequent initial symptom, and present in over 90 per cent. of cases some time during the course of the disease; (2) pain as an initial symptom was noted in 30 per cent. and was present in more than 40 per cent. at one time or another, and (3) a tumor was palpated in 85 per cent. of the cases. A number of patients complained of all three symptoms, and in more than 85 per cent. two of the classical symptoms were present. Of the twenty-eight patients operated on in this series, there were twenty nephrectomies with one death, a mortality of 5 per cent. This patient died with uremia manifestations ten days after operation. At postmortem, it was found that the growth extended from one renal vein into the vein of the opposite kidney. Among the eight exploratory operations, one patient died six days after from general weakness. This operation was performed under local anesthesia, and an inoperable tumor found. Nine deaths occurred within the first year from recurrence or metastases and five in the second year. The percentage of cures over three and one-half year period is 33.3. Three patients who have already survived nephrectomy three and one-half years had well advanced processes. One patient is alive seven and one-half years after nephrectomy.

**Treatment of Suppuration in Posterior Mediastinum.**—In Lerche's case the suppuration originated in the neck and extended into the mediastinum. It was treated by drainage of the posterior mediastinum by the cervical route. An incision was made along the anterior border of the sternocleidomastoid muscle to the sternal notch. When the right lobe of the thyroid was retracted toward the mid-line, a large abscess cavity was disclosed behind it, between the esophagus and the trachea on the inner side and the sternocleidomastoid muscle and the large vessels on the outer side. The abscess could be followed into the superior and posterior mediastinum for from 9 to 10 cm. below the top of the sternum. A rubber drainage tube was left in the mediastinum, the rest of the abscess cavity packed with iodoform gauze. Later a soft rubber bulb was attached to the drainage tube, which the patient now and then adjusted for suction. The wound healed in seven weeks. The patient recovered and is alive today, thirteen and a half years following the operation.

**Reconstruction of Hand.**—Taylor describes a tendon folding clamp which he devised and which makes it possible to obtain a more perfect application of the fine silk approximation of stay sutures leaving a minimum of silk exposed to prevent the production of possible traumatic adhesion from the silk. Taylor describes his technic in detail.

**Epicondylitis Humeri.**—This condition is found in individuals engaged in heavy manual work, characterized by pain in the elbow region and functional impairment to a greater or lesser degree, together with persistent tenderness limited to the epicondyle of the humerus. Immobilization seems to be the best treatment. Its course seems to be self-limited and may be rather protracted, notwithstanding additional therapy.

**Abscess of Prostate.**—Of forty-three cases of abscess of the prostate reported by Kretschmer, thirty gave a positive history of gonorrheal infection, either recent or remote. Examination of the discharge showed the presence of the gonococcus in sixteen cases. In eighteen cases gonococci were found in the pus obtained from the abscess. Kretschmer emphasizes that abscess of the prostate occurs more frequently than is generally recognized. Early surgical intervention—namely, incision and drainage—is a rational method of handling these cases and does not differ from the surgical treatment of abscess occurring in other organs. The results are good.

**Incision for Gasserian Ganglion Operation.**—The incision used in the Mayo Clinic is simple and can be made and closed rapidly; it precludes the possibility of injury to the temporal branch of the facial nerve; it is entirely within the hair-line and leaves no visible scar, and it prevents the swelling so prone to occur about the orbit in flap incisions. The incision begins at the lower border of the zygoma, 1 cm. in front of the ear, and extends 8 cm. backward and upward in the direction of the fibers of the temporal muscle. The incision is extended through the skin, fascia and muscle, but in addition the temporal fascia is divided parallel with the zygoma for a distance of 0.5 centimeter in each direction from the oblique incision, thus affording greater exposure of the lower angle. A self-retaining retractor is used to expose the bone for decompression with removal of bone down to the floor of the middle fossa.

**Pin Method for Approximating Patella Fragments.**—Strong pins are passed through the tendons as close as possible to the patella. The pins are then approximated by means of bandages or adhesive strips. This brings the broken fragments in close approximation. The advantage of this method is that the bones can be certainly approximated without entering the knee-joint.

**Plaster Rope Cast.**—The rope cast is made of six-inch plaster bandages. A bandage is folded on itself several times, and is then folded lengthwise three times, so as to make a flattened plaster rope from ten to fifteen layers thick. These ropes are thus made strong enough to stand a considerable strain. Gordin usually molds one rope to the anterior surface of leg and one to the posterior surface, and at various intervals where there are no raw surfaces or discharging wounds, he winds plaster ropes around the leg. Usually about four ropes around the leg will hold it very firmly. Almost any modification can be made to suit individual cases.

## FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Medical Journal, London

March 19, 1921, No. 3142

Some Recent Advances in Physiology of Respiration, Renal Secretion, and Circulation. J. S. Haldane.—p. 409.
Physiologic Principles in Midwifery Practice. J. S. Fairbairn.—p. 413.
Treatment of Syphilis. H. MacCormac.—p. 415.
Suprapubic Drainage of Bladder: De Pezzer Tube. G. S. Mothersill and C. Morson.—p. 418.
*Antimony in Leprosy. F. G. Cawston.—p. 419.
*Acute Retention of Urine Complicated by Perforation of Duodenal Ulcer. G. A. Ewart.—p. 420.
Calcium in Treatment of Pulmonary Tuberculosis. E. E. Prest.—p. 420.
Cerebrospinal Fluid in Encephalitis Lethargica R. H. Hodges.—p. 421.
Transverse Cervical Laceration. S. Caplan.—p. 421.

**Antimony in Leprosy.**—The beneficial effects of various preparations of antimony in the treatment of lepers Cawston states show that they are not confined to the colloidal preparations of the drug. Some leper patients have been treated with intravenous injections of a 2 per cent. solution of tartar emetic, while others have received the antimony in the form of antimonial wine in a cough mixture. To the usual expectorant mixture containing squills was added wine of antimony, from 15 to 20 minims t.d.s. The use of antimony appears to be particularly indicated in "chest" cases. Some cases of leprosy seem to have benefited much under treatment with antimony given in the form of tartar emetic in from 2 to 5 c.c. doses of a 2 per cent. solution twice a week.

**Strain Causes Rupture of Duodenal Ulcer.**—In the case cited by Ewart strain was the actual cause of rupture of a duodenal ulcer. When violently straining to urinate, the patient was seized with an agonizing pain in the upper abdomen which felt as if "something had given way." The abdomen became distended, universally rigid and tender, the liver dulness being absent. Palpation of the bladder was impossible owing to the rigidity of the overlying muscles, but on percussion it was estimated that it reached fully an inch above the umbilicus. On opening the abdomen, free gas and a fair amount of turbid fluid was discovered, the intestines were injected, and the bladder was seen to reach above the umbilicus. The stomach and intestines generally were greatly distended and the latter loaded with fecal matter. On further investigation, gas and fluid were found welling up from the region of the second part of the duodenum, where an indurated perforated ulcer could be felt. The condition of the patient was so bad, that it was deemed inadvisable to make any prolonged attempt at closing the perforation. A large drainage tube was passed to the seat of perforation, and another into Douglas' pouch, and after a brief attempt to cleanse the peritoneum, the abdominal cavity was closed. A suprapubic incision was next made and the bladder opened. A drainage tube was introduced and fixed in the bladder by means of a soft catgut stitch, and the suprapubic wound was partially closed. The condition of the patient improved slowly. The upper incision healed without the formation of a duodenal fistula. The patient had an uninterrupted convalescence.

March 26, 1921, **1**, No. 3143

Importance of Infinitely Little. W. D. Halliburton.—p. 449.
Glandular Fever. H. L. Tidy and E. B. Morley.—p. 452.
Ununited Fractures. G. W. Beresford.—p. 456.
Treatment of Hemorrhoids by Electrolysis. J. C. Webb.—p. 457.
*Tuberculin in Epilepsy. J. Crocket.—p. 458.
Supremic Glycosuria. T. E. Mitchell.—p. 459.
Normal Delivery After Traumatic Rupture of Uterus. R. T. Thorne.—p. 459.

**Tuberculin in Epilepsy.**—Some textbooks on the subject of tuberculin mention epilepsy as a contraindication to its administration. Crocket's experience shows that, so far from that being so, it is a decided indication for its use, especially under two circumstances: (1) the presence of a tuberculous lesion, active or quiescent; (2) a family history of tuberculosis. Six and a half years ago he began to give tuberculin to a patient 32 years of age, who had suffered from epilepsy of the major type since the age of 7, and who had a large mass of tuberculous glands below the right ear with several discharging sinuses. In the course of a year and a half the glands disappeared entirely and the pleurisy cleared up. Pari passu with the disappearance of the tuberculous lesions, the epileptic fits became fewer, and after two and a half years ceased entirely, and the patient likewise improved mentally. For four years this patient has been free both from tuberculosis and from epilepsy. Encouraged with the results of treatment in this case, about eighteen months ago he began to administer tuberculin to several other epileptics who had no clinically obvious or apparent tuberculosis, but gave a family history of tuberculosis. One of these has responded excellently. Tuberculin was first given to him in November, 1919. For nearly fourteen months he has had no signs of epilepsy, and mentally he has also improved. The records of this case show that previously the patient was pugnacious and irresponsible, but during the past year he has been well behaved, and fairly industrious. Five others to whom tuberculin has been given for six to twelve months, show a diminution in the number and in the severity of their seizures. Three show no change. We have begun to give tuberculin to a hundred epileptic. The tuberculin used was Burroughs, Wellcome and Co.'s B. E. and P. B. E., mixed in equal parts, and it was given in doses beginning at 0.00000001 c.c., gradually increased to 0.4 c.c. The injections were given at intervals of seven days to begin with, and later of fourteen days. The treatment has gone on without any intermission. General reactions have been avoided, but once or twice local reactions of a rather severe type occurred when large doses of bacillary emulsion were given. On two occasions cold abscesses formed, which had to be aspirated.

### China Medical Journal, Shanghai

January, 1921

Health of Missionary Families in China. Wm. G. Lennox, Peking, China.—p. 9.

### Dublin Journal of Medical Science

March, 1921, **4**, No. 13

Carcinoma of Liver. J. Moore.—p. 97.
Nasal Catarrh. T. O. Graham.—p. 102.
*Case of Sporotrichosis. W. Beatty.—p. 116.
Stone in Female Bladder. F. J. Dunne.—p. 118.

**Sporotrichosis.**—A boy, aged 12, fell and hurt the palmar aspect of the right hand near the wrist; suppuration followed, and later the skin of the affected part of the hand became dry and rough. Some months after this lesion occurred, a small circular abscess developed on the extensor aspect of the right forearm and two minute elevations, pea sized, at the inner surface of the right arm. The boy had also ringworm of the scalp. From the pus pressed out of the abscess, Beatty succeeded in obtaining a pure growth of sporothrix.

### Glasgow Medical Journal

March, 1921, **95**, No. 13

Psychology of Vision. A. F. Fergus.—p. 161.
1840 Versus 1920. W. R. Jack.—p. 179.
Appetite Juice. E. P. Cathcart.—p. 194.

### Indian Medical Gazette, Calcutta

February, 1921, **56**, No. 2

Effect of Control and Rationing of Rice on Beri-Beri. A. J. McClosky.—p. 41.
Use of Clamps in Restraining Hemorrhage During Operation for Elephantiasis of Scrotum. J. W. Porter.—p. 41.
Methods of Securing Dressings to Operation Wounds. J. W. Porter.—p. 42.
Infant Mortality in Khulna District. S. L. Sarkar.—p. 43.
Suggestion to Increase Utility of Medical College Journals. P. S. Gupte.—p. 47.
Barbaric Method of Circumcision Among Some Arab Tribes of Yemen. Y. V. Chabukswar.—p. 48.
*Use of Tincture Iodin Intravenously. S. R. Bhattacharjee.—p. 49.
Recent Outbreak of Influenza. H. R. Dutton.—p. 56.
Case of Malignant Malaria of an Unusual Type. R. K. Basu.—p. 56.
Case of Myiasis of Frontal and Ethmoidal Sinuses and Orbit. R. E. Wright and W. S. Patton.—p. 58.
Case of Venereal Papilloma. A. Visuvalingam.—p. 59.

**Tincture Iodin Intravenously in Septic Conditions.**—Good results have been obtained by Bhattacharjee in various septic conditions with intravenous injections of tincture of iodin. The effect of the drug, administered as above, has so far been observed in eighteen different cases, viz., three of mauling by

leopards, one of cellulitis, ten of syphilis, and four of malaria. From 3 to 8 minims, in water, have been injected, the dose being repeated as often as was necessary.

## Journal of Neurology and Psychopathology, Bristol

February, 1921, **1**, No. 4

Hydrocephalus Complicating Cerebrospinal Fever, and Its Treatment. C. Worster-Drought.—p. 309.
Case of Melancholia. A. Carver.—p. 320.
Intelligence Tests. W. Johnson.—p. 325.
Localization of Function in Central Nervous System. C. P. Symonds.—p. 329.

## Journal of State Medicine, London

March, 1921, **29**, No. 3

Standardization in Bacteriology. J. G. Adami.—p. 65.
*Detoxicated Vaccines. D. Thomson.—p. 74.
Bacteriology of Cerebrospinal Fever. M. H. Gordon.—p. 83.
Intestinal Disinfection. J. T. A. Walker.—p. 89.

**Detoxicated Vaccine.**—The detoxicated vaccines which Thomson has prepared contain not only the metaprotein but also the proteoses and acid soluble parts of the germs as well as the alcohol soluble lipoid or waxy substance. They contain practically every constituent except the endotoxic material which is removed with the supernatant alcohol after precipitation of the proteoses. These vaccines Thomson claims are better than the original type which consisted of the alkali soluble metaprotein only. They are even less toxic and very satisfactory and beneficial results have been obtained by their use in quite a variety of diseases, including gonorrhea, rheumatism, coryza, influenza, acne, otitis media, etc. Doses equal to 30,000 million gonococci have been given without any marked reaction, and in some cases 20,000 million mixed coryza organisms can be administered with little inconvenience. Thomson has noted that subcutaneous injections of the proteose constituent of the gonococcus have a marked provocative effect on the gonorrheal discharge for the first twenty-four or forty hours following the injection, in fact, this fraction of the germ has proved to be very valuable as a provocative test of cure. Subsequent injections of the proteose produce a diminishing provocative result showing that immunity toward the proteose is gradually established. The detoxicated tubercle bacillus vaccine, containing the alkali, acid, alcohol and choroform soluble constituents appears to be less toxic and less dangerous in its effects than the so-called tuberculins.

## Lancet, London

March 19, 1921, **1**, No. 5090

Subphrenic Abscess. C. H. Fagge.—p. 571.
*Quasicontinuous Temperature Record. G. Woodhead and P. C. Varrier-Jones.—p. 573.
*Heliotherapy in the High Alps. A. Rollier.—p. 582.
Chemical Estimation of Gastric Function by Test Meals of Ewald and Boas.—p. 586.

**Quasicontinuous Temperature Record.**—Woodhead and Jones maintain that the quasicontinuous temperature record of a reaction is a valuable diagnostic indication as to (1) the tuberculous nature of the disease; (2) the activity of the process; and (3) the prognosis. As to the type of the disease, however, "acute miliary," "caseous pneumonia," "chronic fibroid," etc., though, the temperature may give some indication, the physician will find that physical signs afford considerably more specific information. The temperature indications as to the resistance, or lack of resistance of the tissues of the patient are of extreme interest, especially in regard to prognosis. Instability of the temperature affords evidence of (*a*) a high toxic absorption; (*b*) ready reaction of the tissues to the toxic stimulation and (*c*) marked interference with the rest function of the patient. A restless night is reflected in the temperature curve, and it appears that the inverse temperature is, to a large extent, the result of a continued autoinoculation, during which a minimum stimulus produces a maximum reaction both as to amount and duration. The night sweats are evidence of some interference with the automatic nerve centers.

**Heliotherapy.**—Rollier states that heliotherapy may be carried out in any place where the sun shines; but different points on the earth's surface show great variation in the quality of the sunlight which reaches them and also in other factors affecting the cure. The secret of the sun's action on pathologic processes is that while highly toxic to microorganisms in general (and to the tubercle bacillus in particular), the solar radiations are not only harmless, but actually beneficial to the cells of higher animals. This specific action of sunlight was of great assistance to the treatment of suppurating war wounds. The sun appears to increase the rate of disintegration of cells damaged beyond repair, while stimulating the activity of the undamaged cells. A torpid lesion (such as varicose ulcer) demonstrates particularly well this cicatrizing action of the sun. Anemia and rickets, essentially diseases of deficient sunlight, are similarly amenable to heliotherapeutic treatment.

March 26, 1921, **1**, No. 5091

Importance of the Infinitely Little. W. D. Halliburton.—p. 627.
Congenital Syphilis. H. M. Fletcher.—p. 630.
Cases of Postarsphenamin Jaundice. A. T. Todd.—p. 632.
Louse Problem at Western Front. A. D. Peacock.—p. 634.
*Acute Puerperal Salpingoperitonitis. A. W. Bourne.—p. 637.
Two Cases of Gangrene of Lung. J. D. Mather and F. B. Smith.—p. 642.
*Splenectomy for Torsion of Spleen in Child. A. H. Southam.—p. 642.

**Acute Puerperal Salpingoperitonitis.**—Acute salpingitis, occurring in a previously healthy tube, which Bourne claims to be more common than is generally supposed, gives rise to the characteristic clinical picture he describes. The disease is due either to extension of organisms along the tube from the infected uterus or to an exacerbation of previons salpingo-oophoritis which must of necessity have been only slight in degree or unilateral. Bourne believes that the disease is sometimes caused by organisms that have lain dormant for a long time in otherwise perfectly normal tubes. He believes further, that the tube can exercise an inhibitory effect on microbes within its lumen at ordinary times for he has succeeded in growing streptococci from the peritoneal abscess cavity around the tube and from the uterus, but failed to cultivate a microbe from the pus within the tube in the same patient. The symptoms are those commonly complained of in an acute lower abdominal peritonitis. As in acute appendicitis, pain precedes everything and is rapidly followed by a slow rise of temperature to reach 102 or 103 F. on the third or fourth day, with a pulse following suit. Vomiting is not a feature in the early cases. An interesting and indicative symptom occassionally is retention of urine or painful micturition, and is specially seen in cases in which a cellulitus has developed secondarily to the salpingitis involving the upper part of the broad ligament and extending forward beneath the round ligament to the neighborhood of the bladder. If the patient is not operated on there is a persistent fever with chronic pain and waisting; she slowly goes down hill, develops cardiac weakness, and is bedridden. In the great majority of these patients operation is necessary, for the condition is essentially one of suppurative peritonitis, which unless relieved, will show no tendency to undergo spontaneous resolution. The time at which operation should be performed is the point which admits of difference of opinion. Bourne's view is that in cases of puerperal salpingoperitonitis operation should be done as early as the diagnosis is established. The general principles are to employ conservative measures on structures in an acute condition in order, firstly, to save them, and secondly, to prevent chronic changes developing in them, but to deal radically with acutely inflamed and seriously damaged appendages in spite of dense adhesions which may be present. In this way much can be done to conserve function, to prevent chronic disease, and to provide for a reasonably quick recovery to normal health.

**Splenectomy for Torsion of Wandering Spleen Pedicle.**—Southam cites a case of torsion of a wandering spleen in a child aged 6 years. The spleen was removed. It weighed 14 ounces.

## Medical Journal of South Africa, Johannesburg

December, 1920, **16**, No. 5

Fifteen Cases of Suffocation by Foreign Substance in Trachea and Bronchi. J. J. Levin.—p. 85.
Bacillus Unna-Ducrey. C. Pijper.—p. 89.

## South African Medical Record, Cape Town

Feb. 26, 1921, **19**, No. 4

Treatment of Acute Gonococcal Urethritis in Male. A. R. Fraser.—p. 62.

## Bulletin de l'Académie de Médecine, Paris

March 1, 1921, **85**, No. 9

*Nomenclature of Diseases. Committee Report.—p. 254.
*Remote Results of Laryngectomy. E. J. Moure.—p. 257.
Fatal Enteritis from Morgan's Bacillus. Besson and De Laverne.—p. 260.
*Fasting in Treatment of Diabetes. F. Rathery.—p. 262.
*Hemostatic Drugs. P. Émile-Weil.—p. 265.
*Extensive Resection for Colonic Cancer. V. Pauchet.—p. 267.

**Nomenclature of Diseases.**—The International Committee for Revision of Nosologic Nomenclature recently appealed to the Académie to use its influence in favor of adopting the termination "osis" to express all diseases caused by a microbe or a fungus, reserving the termination "asis" for diseases caused by an animal parasite, such as trichiniasis, elephantiasis, etc. The committee appointed by the Académie has reported adversely to the proposition, saying that spirochetosis, for example, might mean any one of ten different diseases, from relapsing fever to phagedenic ulcer. Mycosis also might mean any one of several. "And," the chairman asks, "does elephantiasis mean caused by an elephant?" The committee advocated refraining from rash changes in the names of diseases, pointing to the way in which zoology has been hampered by the too rigorous application of a nomenclature.

**Remote Results of Laryngectomy for Cancer.**—Moure's experience with thirty-one cases has demonstrated that laryngectomy with modern technic may be regarded as a relatively benign operation. Of his thirty-one patients, eleven seem to be permanently cured, two for over nine years, one for seven, one for four and the others from one to three years. He now turns back a single flap; this gives better access than the two flaps with a median incision, while the suture is less visible. He operates at a single sitting, and urges intervention before the cancer has extended beyond the larynx. Neither radium nor the roentgen rays seem to act favorably on epitheliomas in the larynx. The patients learn to speak afterward by means of a simple apparatus.

**Fasting Treatment of Diabetes.**—Rathery has obtained better results with brief fasting plus the Guelpa purgation (see abstract on page 345 of the current volume), than with the Allen fasting technic. Fasting treatment does not cure the disease, and in one of his cases it seemed to be responsible for the fatal outcome. It should be regarded as only exceptionally indicated.

**Hemostasis.**—Weil comments that the hemostatic action of emetin can be estimated by the bleeding time, but that it does not act by influencing the vasomotors or coagulation. The effect of hemostatic drugs is most instructively studied in persons with a bleeding time of ten or fifteen minutes, normal biology and pathologic biology supplementing each other.

**Resection for Cancer of Colon.**—Pauchet resected the entire large intestine and 30 cm. of the ileum in the woman of 57. Bowel functioning has been apparently normal during the eighteen months to date since the ileum was sutured to the anus. The mesentery had to be cut to allow the bowel to be brought low enough for this. Rectoscopy now shows a large cavity, the walls of which present the physical characteristics of a normal rectal mucosa. The retracted mesocolon was not resected as extensively as contemplated, and this was probably responsible for the metastasis in the liver now apparent.

March 8, 1921, **85**, No. 10

*Epidemic Encephalitis. Committee Report.—p. 278.
*Morgan's Bacillus and Castellani's Bacillus. Dopter.—p. 301.
*Supernumerary Teeth. F. de Lapersonne, Velter and Prélat.—p. 308.
Extraction of Projectile in the Pericardium. J. Boeckel.—p. 315.
*Acid-Resisting Bacillus Infection. E. Marchoux.—p. 317.
*Helminthiasis and Painful Dysmenorrhea. G. Léo.—p. 319.

**Epidemic Encephalitis.**—This committee report fills twenty pages and traces the history of epidemic encephalitis. It seemed to develop simultaneously in France and in Austria in 1916, although the war had interrupted all communication between them. It appeared in Australia also at the same time. It also prevailed in epidemic form in 1890 and in 1713, and probably existed in the middle ages and in antiquity. It is contagious but not violently so. The resistance of the virus is demonstrated by the long duration of the disease, the frequency of relapses, and the evidence that certain persons may transmit the disease several months or years after its first onset, and that healthy persons may be carriers. The secretions of the mouth and nose seem to be the vehicle of contagion, which suggests the possibility of infection by clothing, etc. Isolation should be maintained during convalescence but it is impossible to fix any date for the length of the isolation. Owing to the rarity of contagion, it is not necessary to be too anxious. Disinfection of the room, the linen, and clothing is advised, and compulsory declaration of the disease and even of the dubious cases.

**Pathogenic Power of Morgan's Bacillus and Castellani's Bacillus.**—Dopter reports a case of fatal choleriform diarrhea in which Morgan's bacillus was cultivated from the intestines. In two other cases of choleriform enteritis Castellani's bacillus was found.

**Supernumerary Teeth in the Orbit.**—De Lapersonne and his co-workers report that the exophthalmos in the girl of 15 was explained by radioscopy as due to the development of twelve or more supernumerary teeth in the face and orbit. The difficulties of operative removal of the teeth in the orbit have made them refrain from any intervention for the present, under roentgen-ray control.

**Acid-Resisting Bacillus Infection.**—Marchoux describes what he says is a new disease, due to an acid-resisting bacillus which is neither that of tuberculosis or leprosy. The diagnosis during life had been leprosy, but necropsy and the bacteriologic findings disproved this. The man succumbed to intercurrent streptococcus pleurisy.

**Helminthiasis and Painful Dysmenorrhea.**—Léo warns that if the tongue shows visible hypertrophy of the papillae at the tip and sides, the ova of parasites should be sought in the stools, as this is a very reliable sign of helminthiasis. This tongue sign in addition to painful dysmenorrhea is sufficient, he thinks, to call for treatment of helminthiasis. He has thus treated eight women and the pains at menstruation have been entirely abolished. One of them had suffered in this way from puberty to the age of 36. The first month after the vermifuge treatment was the first menstrual period which had not been accompanied by severe pains. Suggestion could be excluded. He gives some details of the other cases saying that the whole are to be published in full. Others less carefully studied have given the same favorable outcome, the disappearance of the menstrual pain in the pelvis as the ascarids and oxyurids were cleared out. They were all pure cases of painful dysmenorrhea, free from complications.

## Bulletin Médical, Paris

Feb. 26, 1921, **35**, No. 9

Endonasal Treatment of Frontal Sinusitis. Dufourmentel.—p. 165.
Chronic Laryngitis. R. Miégeville.—p. 167.
Chronic Nasopharyngeal Catarrh. H. Flurin.—p. 171.
Acute Otitis Media. F. Bonnet-Roy.—p. 174.

March 19, 1921, **35**, No. 12

*Jaundice After Arsenical Treatment. L. Brocq.—p. 235.
The Blood Pressure with Pure Mitral Stenosis. Amblard.—p. 236.

**Jaundice After Arsenical Treatment.**—Brocq admits that neo-arsphenamin injected in rather large doses by the vein passes directly to the liver through the hepatic artery, and is liable to induce toxic injury, with resulting jaundice. This subsides if the drug is suspended. On the other hand, the toxic injury of the liver reduces its resisting power, and thus the spirochetes are enabled to settle in the liver and thus damage the liver further. This damage is arrested by giving more arsphenamin. Subcutaneous injection of the drug does not reach the liver so directly, and hence does not entail these paradoxic effects on the liver. The toxic injury from the arsenical may be slight and transient, but, he adds, it is only with grave apprehensions that he resumes intravenous injections of neo-arsphenamin in a case in which there have already been disturbances on the part of the liver after its administration. He says that he prefers to change to mercury or to give the arsenical subcutaneously, acknowledging, *Je sais que je suis un timoré.* If the toxic symptoms predominate, the further use of the arsenical will aggravate them. If the syphilis element predominates, it will cure. He adds, "When we think of the long time it took before we learned

of all the possible misdeeds of such common drugs as the salicylates, antipyrin, orthoform, etc., we feel more respect for the toxic substances which at present we are injecting by the vein in large doses, chasing the microbe without worrying as to the possible injurious action on the tissues."

## Bulletins de la Société Médicale des Hôpitaux, Paris

Feb. 25, 1921, **45**, No. 7

*Fatal Puerperal Endocarditis. M. Renaud and Gayet.—p. 240.
*Stenosis of Pylorus in the Newborn. Péhu.—p. 245.
*Epidemic Encephalitis. P. Marie and Bouttier.—p. 252.
*Serum Sickness. B. Weill-Hallé and P.-P. Lévy.—p. 260.
Primary Pneumococcus Septicemia. Lafforgue.—p. 264.
"Rat-Bite Fever" from Dog Bite. P. Cazamian.—p. 268.
*Rabies after Pasteur Treatment. R. Mallet.—p. 273.
Tardy Serum Sickness. C. Lian.—p. 275.
Case of Myoclonia-Epilepsy. Crouzon and Bouttier.—p. 278.
Nonfollicular Tuberculosis of the Spleen. O. Crouzon.—p. 281.
Miliary Tuberculosis after Antityphoid Vaccination. Bourges.—p. 283.
Alimentary Hemolysis in Epileptics. P. Pagniez and J. de Léobardy.—p. 286.
*Scurvy in Infants. J. Comby.—p. 288.

**Fatal Puerperal Endocarditis.**—The woman had succumbed to what seemed to be streptococcus septicemia after an abortion. The necropsy findings however revealed an unsuspected mild endocarditis. This had entailed thrombosis and the emboli swarmed with streptococci. This embolism was responsible for the streptococci in the blood; there was no true septicemia. Two plates show the findings, and they suggest the possibility that the curetting of the uterus might have been responsible for the streptococci getting into the blood stream and reaching the heart.

**Stenosis of the Pylorus in the Newly Born.**—Péhu summarizes six cases and states that, of his total eight cases, the six infants all recovered that had been given medical treatment only, while both died of the two treated by gastroenterostomy. In none of the medical cases has there been any disturbance from the pylorus since, the intervals up to twelve years. He adds that twenty-six cases have been published in France. His experience shows that even in grave cases a cure may be realized under persevering medical measures alone.

**Treatment of Epidemic Encephalitis.**—Marie and Bouttier reasoned that curare and cicutin would probably modify the "terminal motor area," and have been trying the last mentioned in treatment of epidemic encephalitis and of paramyoclonus. The effect was favorable on the myoclonus but the choreiform movements were not modified. Sicard reported that the fixation abscess had not proved as successful in his experience as others have reported; several patients died from two to six weeks after the well defined abscess had developed. A vaccine made from the tissues of the peduncles and striated body, from cases of "legitimate neuraxitis," seemed to have a certain efficacy in intramuscular or subcutaneous injection of 1 or 2 c.c. repeated every day or second day to a total of twelve or fifteen injections, in the protracted course of the disease, when insomnia and parkinsonian symptoms predominated. He added that these persisting symptoms are refractory to all other measures to date, but the results with this vaccine therapy justify further research.

**Serum Sickness Taking the Form of Arrhythmia.**—The boy of 6 had apparently recovered from a mild, two-day attack of diphtheria, under antitoxin. Then came—five days later—an eruption, arrhythmia and modification of the second sound, with pains in the joints as the heart returned to normal. The writers interpret all this as manifestations of serum sickness. This assumption is confirmed by Lian's case in which the urticaria of serum sickness was accompanied by abnormally low blood pressure. In still another case there was, besides, a state of lipothymia for twelve hours.

**Case of Rabies.**—Mallet reports a case which warns of the necessity for keeping the patient under supervision after Pasteur treatment, and giving another course of injections when the slightest signs of anything abnormal develop. Particularly instructive in this line is pain at the point where the subject had been bitten, also periods of unusual depression or gaity or of each in turn. This patient had been bitten in the face and three days had elapsed before treatment was applied.

**Scurvy in Infants.**—Comby reports twelve new cases and says that of the seventy-two cases of infantile scurvy that he has encountered, 90 per cent. had been erroneously diagnosed by the attending physician. There was no hemorrhagic gingivitis in 22 per cent., but in every case the children cried when they were moved, the bones evidently being tender and painful.

## Lyon Médical, Lyons

March 10, 1921, **130**, No. 5

Thoracentesis without Aspiration. J. Mollard.—p. 197.

## Paris Médical

March 12, 1921, **11**, No. 11

*Peritonsillar Phlegmon. Chabrol, Dufourmentel and Michel.—p. 209.
*Spa Test of Recovery from Tuberculosis. J. Galup.—p. 213.
*Spinal Fluid and Blood in Hysteria. R. Bénard and A. Rouquier.—p. 217.

**Peritonsillar Phlegmon.**—This communication reports the case of a man of 47 with paralysis of the four last cranial nerves without participation of the sympathetic. The whole was traceable to a peritonsillar phlegmon. This had induced neuritis, and the disturbances in swallowing were so severe that the man died soon from inanition. Only one case like this is known, and the diagnosis of neuritis by extension was confirmed in the latter case by the improvement under strychnin and electricity.

**The Spa Test of Recovery from Tuberculosis.**—Galup practices at a watering place, and he describes the instructive findings in regard to pulmonary tuberculosis when the suspect or the convalescent is taking the regular course of mineral water. The reaction shows exactly the state of the tuberculosis.

**The Spinal Fluid and Blood Findings in Hysteria.**—Rouquier has recently reported discovery of an abnormally high albumin content in the spinal fluid in eight of fifteen patients with convulsions or hysteric motor disturbances. In thirteen cases the sugar content was abnormally high. In a young man with severe pithiatic narcolepsy whose case is here described, urea was found in the spinal fluid also and 0.8 per thousand in the blood. Two days later the urea in the blood had dropped to 0.44 per thousand but the Ambard constant was 0.15. The laboratory findings thus suggested epidemic encephalitis but complete recovery under "moral revulsion" testified to the pithiatic origin.

## Presse Médicale, Paris

March 9, 1921, **29**, No. 20

*Surgical Treatment of Angina Pectoris. T. Jonnesco.—p. 193.
*The Liver and Anesthesia. E. Desmarest and Lascombes.—p. 194.
*Anisosphygmia. M. Loeper and A. Mougeot.—p. 196.

**Surgical Treatment of Angina Pectoris.**—Jonnesco here describes in detail the case already mentioned in these columns (vol. 75, p. 1525), in which he cured angina pectoris in a man of 38 by resection of the cervicothoracic sympathetic nerve on one side. The man was syphilitic and inclined to abuse of tobacco and alcohol. There has been no recurrence of the angina pectoris during the four years to date, although the aortic lesions still persist. Jonnesco has applied this operation in treatment of epilepsy, of exophthalmic goiter, of glaucoma and of migraine, and has thus established, he says, its relative facility and absolute harmlessness.

**Nitrous Oxid and Cholemia.**—Examination for cholemia before and after general anesthesia by various means has shown that ether and chloroform induce pronounced cholemia which takes five or six days to disappear. On the other hand, a combination of nitrous oxid and oxygen never induced cholemia in the tests related, and this seems to be evidence that this anesthetic alone spares the liver completely.

**Anomalies in the Regular Pulse.**—Loeper and Mougeot have coined the term anisosphygmia to express changes in the pulse in amplitude and force while the rhythm keeps regular. They discuss its significance on the basis of study of 500 tracings and 250 oscillograms.

March 12, 1921, **29**, No. 21

Radio-Active Therapeutics. G. Petit.—p. 201.
*Sudden Death in Heart Disease. R. Lutembacher.—p. 203.
Bone Implants. L. Christophe.—p. 204.
*Basal Metabolism. J. Rouillard.—p. 205.

**Sudden Death in Heart Disease.**—Lutembacher emphasizes that in many cases the sudden death after the use of a heart tonic or arsenical is ascribed to the medication, when thrombosis in the heart is responsible, and the sudden death would have occurred in any event very soon afterward. The large thrombi found in the heart cavities easily explain the mechanism of death. The clots are too large to pass into the circulation, but anything that helps to mobilize them, by reenforcing the contractions of the heart or otherwise, precipitates the fatal outcome. We must bear in mind that in heart disease the menace is of two kinds, mechanical and septic. The mechanical may yield to treatment, and hence it is important to detect secondary infection. This is suggested by a febrile state, anemia, a tendency to hemolytic jaundice, and sudden modification of the asystolia. The sudden appearance of signs of insufficiency of the right ventricle is instructive. Sometimes the thrombosis in the heart is manifested by embolism, infarcts in the lungs, purpura or pain in the spleen. In such circumstances heart tonics should be managed with special prudence, warning the family of the danger of embolic accidents. In one of the various cases described the systolic pressure had fallen very low during an attack of angina pectoris but the heart was beating regularly, and at the request of the family it was decided to inject a heart tonic. The preparations were being made for this when the patient died. A few moments later and the drug would have been injected and have been regarded as responsible for the fatality. This coincidence is particularly likely with certain drugs which are reserved for the last resort, when the condition really is beyond relief.

Basal **Metabolism.**—Rouillard describes here the work that has been done in America in this line in the last five years.

## Progrès Médical, Paris

Feb. 12, 1921, **36**, No. 7

*Uremia with Pulsus Alternans. J. Heitz.—p. 67.
Notes from the Clinics of the Week.—p. 68.
Medicolegal Aspect of Abortion. Balthazard.—p. 70.
Dystocia from Retraction or Defective Development of Lower Segment of Uterus. S. Bermann.—p. 71.
Chauffeur's Fracture. Duméry.—p. 74.

**Uremia with Pulsus Alternans.**—Heitz recalls that in 24 of his 25 cases of pulsus alternans there was uremia. Chalier and Contamin also found uremia in 7 of their 10 cases of pulsus alternans. But the pulse was normal in 2 cases of extreme uremia with acute nephritis, and in one with jaundice. The pulsus alternans may be intermittent with uremia, or it may escape detection. It seems to be due to both the hypertension and the uremic poisoning, and by reducing the nitrogen in the diet the toxic factor may be reduced. In Heitz' cases this alone often reduced or banished the alternans in a few days. He reiterates that the discovery of the slightest tendency to pulsus alternans in a case of heart and kidney disease calls for immediate suppression of nitrogen in the diet, and this restriction must be kept up until there is no longer alternation of weak and strong beats.

## Schweizerische medizinische Wochenschrift, Basel

Feb. 24, 1921, **51**, No. 8

Placenta Hormone Responsible for Pregnancy Changes in Uterus and Vagina. H. Guggisberg.—p. 169.
*Heliotherapy and Phototherapy. A. Rollier and A. Rosselet.—p. 172.
*Occult Bleeding in Diagnosis of Gastric Cancer. E. Fricker.—p. 174.
Relations of Psychiatry to Medicine. H. Christoffel.—p. 177.
Isolated Miliary Tuberculosis of Liver. M. Massini.—p. 181.
Treatment of Spontaneous Pneumothorax. M. Landolt.—p. 183.

**The Scientific Study of Heliotherapy and Phototherapy.**—Rollier and Rosselet relate that twelve years of experience have confirmed their previous statements in regard to the mechanism of the curative action of heliotherapy. They have found that those patients recover better and more rapidly who tan well: the pigmentation may possibly transform the short waves into longer waves. They decry the exaggerated importance placed on the ultraviolet rays from the biologic and medical points of view. All their experiences tend to place the luminous rays in the place of honor, but all the rays in sunlight have some action on our organism.

**Occult Bleeding in Diagnosis of Gastric Cancer.**—Fricker analyzes recent literature on this subject, and states that he found occult blood in 170 of his 176 cases of gastric cancer and probably longer observation would have revealed it in the six negative cases. The constant appearance of occult blood in some cases of apparently benign achylia or other vague stomach disturbances, gave the signal for operative measures. That mistakes in diagnosis are still possible with all the means at our command are shown by two cases of benign achylia in which all the clinical tests pointed to malignant disease.

March 10, 1921, **51**, No. 10

Formation of New Cells in Adult Organism. C. Wegelin.—p. 217.
*Calcium and Tuberculosis in Rabbits. R. Massini.—p. 223.
*Treatment of Whooping-Cough. E. Döbeli. p. 224.
Butter-Flour Mixture in Infant Feeding. Rhonheimer.—p. 229.
Tattooing from Medicolegal Standpoint. P. Cattani.—p. 231.

**Calcium and Tuberculosis in Rabbits.**—Massini injected young rabbits with calcium chlorid after they had been inoculated with tuberculosis, and found that they lived a little longer than the controls.

**Treatment of Whooping Cough.**—Döbeli argues that if we can check the expectoration in whooping cough we can control the cough, his experience having always demonstrated that the paroxysms grew less severe and less frequent as the profuse secretion decreased. Others have reported less secretion of urine and increase in elimination of uric acid as long as the expectoration was profuse, but both returned to normal as this latter declined. By dieting to reduce production of uric acid, and copious drinking, the urine and uric acid elimination can be kept normal, and this modifies favorably also the secretion in the air passages. Seven years of experience have demonstrated, he says, that as soon as he could get the tongue cleared off and the appetite restored, the expectoration became less and the children rapidly improved. Then under almost any of the previously ineffectual measures, the paroxysmal cough was aborted and the pertussis conquered. This occurred regularly in several hundred cases and no grave complications followed. The disease occurs mainly in overfed children, with overexcitable nervous system, and laxatives and measures to tranquilize the nerves must supplement the abstention from protein and fat. When the children have no appetite, he orders that food should not be forced on them, especially milk. Abundance of some weak decoction with only a trace of milk, light soups skimmed of fat, vegetables and bread should be the diet; for infants, the milk should be reduced to one fourth, with gruel. Every fifth to eighth day he cuts off all food for half a day and gives a mild saline or calomel purge, mainly to get rid of the masses of swallowed sputum, but also to stimulate the liver. The supper is given at 4:30 p. m. and after this meal nothing but a light soup or tea with softened zwieback is allowed. By this means vomiting at night is usually warded off. He has always found a useful adjuvant in some harmless bitter or sweet drug with pungent odor, given always at the same hour, for its effect by suggestion.

## Archivio Italiano di Chirurgia, Bologna

March 5, 1920, **3**, No. 1-2

*Pain in Iliac Fossa with Chronic Constipation. M. Donati and F. Alzona.—p. 1.
*Gastric Ulcer and Fat Tissue Necrosis. F. De Gironcoli.—p. 105.
*Diagnosis of Surgical Tuberculosis. T. M. Biancheri.—p. 129.
Cancer of Rectum. V. Pauchet.—p. 136.
*Double Femoral Hernia. L. Cevario.—p. 145.
*Bone Implant for Ulnar Pseudarthrosis. F. Putzu.—p. 154.
*Decompressive Operation with Fracture. V. Luccarelli.—p. 165.
*Gastro-Intestinal Hemorrhage after Herniotomy. V. Aloi.—p. 171.
*Primary Sarcoma of Small Intestine. G. Perez.—p. 181.

**Pain in Iliac Fossa with Chronic Constipation.**—Donati and Alzona devote over 100 pages to a study of relative stenosis in the ileum or colon. Eleven cases illustrated, traced to a kink, pericolic membrane or adhesions of inflammatory origin, all presented the identical clinical picture, ileocecal pain and chronic constipation. Appendectomy does not cure this relative stenosis from malposition of the bowel. The right flexure of the colon may sag independently of ptosis of the kidney, but fixation of the flexure in its proper place aids in keeping a movable kidney in place. Donati describes the lumbar method of nephrocolopexy he has applied in three cases with fine results. The kidney is suspended with a

hammock operation and then the colon is drawn up and fastened in much the same way, with silk passed through the last or next to the last intercostal space. The sagging of the kidney was evidently responsible in these cases for the severe pains and rebellious constipation. In another case he short-circuited the bowel by suturing the kinked loop in gun-barrel style, with an anastomosis at the base, thus excluding the kinked loop, and the functional results were perfect. Fixation of the ascending colon often has a favorable influence on ptosis of the stomach, but he warns against fixation of the transverse colon, as this is normally essentially mobile. In one case ileum-transversostomy answered conditions better, and there were no disturbances from the excluded segment of the bowel. He emphasizes the necessity for peritonization of the raw surfaces after breaking up adhesions, and ligation of the small pedicles. In two other cases all symptoms subsided after breaking up the adhesions kinking the ileum, which had developed after appendicitis. A physiologic insufficiency of the tissues may be responsible for persistence of symptoms when all mechanical obstacles to functioning have been done away with. It is wise to advise an abdominal support, and medical and dietetic measures after the operation.

**Perforated Gastric Ulcer and Necrosis of Fat Tissue.**—Gironcoli summarizes from the records eight cases of fat tissue necrosis in the pancreas after perforation of a gastric ulcer, and adds a case personally observed. His patient was a robust woman of 30 and after suture of the perforation and expulsion through the incision of scraps of necrotic fat tissue, recovery was complete in two months.

**Diagnosis of Surgical Tuberculosis.**—Biancheri obtained conflicting results in attempting to diagnose tuberculous bone and joint disease by the local reaction in sensitized guinea-pigs injected intradermally with the secretion from the pathologic process. In the very toxic cases it sometimes proved possible by this means to certify the tuberculous nature of the process in twenty-four or forty-eight hours. If the patient is elaborating antibodies at the time, this may neutralize the toxin and entail a negative response, so that only a three plus reaction is decisive, and this was obtained only in one of the fifteen cases tested.

**Double Femoral Hernia.**—In Cevario's case, one hernia was intravaginal, and the other in the lymphatic space, both on the right side. Five of the eight members of the family have hernia.

**Pseudarthrosis of the Ulna.**—After resection of all cicatricial tissue, Putzu slit the proximal stump and cut off one half, sliding it down to bridge the gap. It was held in place with silver wire. Roentgenoscopy three years later confirmed the complete physiobiologic activity of the stumps and implant, while the half left of the proximal stump has grown to nearly the normal size. This and another case cited testify to the advantages of apposition of like tissues in stump and implant, instead of embedding one inside the other. The implant is now solidly fused with the distal stump, but not with the proximal stump; the implant is not quite so wide here as it was at first, tapering upward.

**Decompressive Operation with Fracture of the Skull.**—Luccarelli passed a curved needle through scalp and periosteum of the fragment of bone that had been fractured and pressed down on the brain. Several silk threads were thus passed through the depressed fragment, and with them it was lifted up. This relieved the pressure on the brain without incising the skin of the scalp. He gives an illustration of a device to facilitate the passage of the needles.

**Gastro-Intestinal Hemorrhage After Herniotomy.**—In one of Aloi's three cases the hematemesis proved fatal. Probably various factors contribute, but he is inclined to accept some latent constitutional cause roused by the anesthesia and the comparatively insignificant operation. In Busse's compilation of ninety-six cases, fifty-three terminated fatally. The hemorrhages in Aloi's fatal case did not begin till the seventh day, coming on in the midst of the apparent complete cure, with profuse epistaxis and the fatal hematemesis.

**Primary Sarcoma of Small Intestine.**—Perez resected the loop of small intestine, the seat of a primary round-cell sarcoma. The man of 37 has been in good health during the seven years since. He had had gastritis for nearly ten years before and had been addicted to alcohol. In a month after the small tumor had been discovered it had grown to the size of two fists, and the loop was then resected with the adjoining glands.

## Policlinico, Rome

Feb. 21, 1921, **28**, No. 8

*Ptosis as Cause of Gallstone Colic. L. Losio.—p. 253.
Abscess in Frontal Lobe after War Wound. T. Lucri.—p. 259.
*Colostrorrhea in Pregnancy. P. Del Vecchio.—p. 262.
*Thoracopagus. G. Merolillo.—p. 263.

**Ptosis of the Pylorus as Cause of Gallstone Colic.**—Losio opened the abdomen in a case of supposed gallstone colic in a woman of 34, and found that the symptoms had developed from traction on the neck of the gallbladder from the sagging pylorus which had dropped below the umbilicus. The neck of the gallbladder was so much irritated from the traction that he removed the organ. The gallbladder was found microscopically normal above the neck. In a second case the diagnosis of gallstone colic seemed beyond question, but the memory of the other case made Losio hesitate, and the operation revealed the stomach almost vertical as in the other case. Posterior gastro-enterostomy in both cases was followed by complete recovery. He explains the mechanism of this secondary injury of the gallbladder, and the necessity for its removal in severe cases, in which recuperation of the neck is scarcely probable. This relieves the bile ducts from traction as well.

**Colostrorrhea in Pregnancy.**—Del Vecchio adds another to the rare cases on record of profuse colostrorrhea during pregnancy. In this case the flow was profuse from the fifth to the seventh month of the pregnancy and then it spontaneously stopped.

**Thoracopagus.**—The two trunks were fused at the thorax but there was only one head and one neck. Two illustrations are given.

March 7, 1921, **28**, No. 10

*Action of Spinal Anesthesia on Liver and Kidney. Ranucci.—p. 323.
Epidemic Encephalitis. O. Rossi.—p. 324.
Quinin in Treatment of Heart Disease. G. Meldolesi.—p. 330.

**Action of Spinal Anesthesia on the Liver and Kidney.**—Ranucci was unable to find anything indicating injury of the liver and kidney from spinal anesthesia in his sixty-seven cases. Injury from this method of anesthesia is very slight and transient, compared to general anesthesia by inhalation. The nitrogen content of the blood was always increased slightly after the spinal anesthesia; the urine showed a marked increase but he never found glucose, acetone, bile pigment, urobilin or acetic acid in the urine; in 34 per cent. of the cases albumin was discovered, but never more than 1 per thousand. He thinks that this albuminuria is probably due to the action of the anesthetic on the nerve centers rather than on the renal epithelium. The albuminuria developed within five or ten hours after the injection. In all cases of kidney or liver disease, spinal anesthesia is evidently less risky than other technics.

Feb. 15, 1921, **28**, Surgical Section No. **2**

*Ventrifixation and Pregnancy. E. Bussa Lay.—p. 45.
*Parenteral Injection of Milk in Surgical Diseases. C. Chiaudano.—p. 50.
Relations Between Hernia and the Deep Vessels. G. B. Macaggi.—p. 56.
*Transplants of Fat Tissue. A. Pennisi.—p. 62.

**Ventrifixation and Pregnancy.**—Bussa Lay reports the case of a woman of 29 with smooth delivery of twins ten years after abdominal hysteropexy. It had not seemed to interfere with gestation or delivery in any way.

**Injections of Milk in Surgical Affections.**—Chiaudano was unable to detect any influence on adnexitis and adenophlegmons, and the benefit in salpingitis was slight. In the single case of erysipelas, considerable improvement was realized, but the results were negative in cases of consolidation of fracture. In mastitis the process seemed to be hastened to a cure; the distention was relieved from the first injection.

**Fat Implants.**—Pennisi remarks that the shrinking in size of the flap of fat tissue must be allowed for in cutting the flap. Even if the flap is slowly absorbed, the cicatricial tissue

which develops will support the skin in the region in the new position imposed on it by the fat flap.

## Riforma Medica, Naples

Feb. 19, 1921, **37**, No. 8

Teaching of Medical Pathology. G. Boeri.—p. 169.
Temperature of the Tonsil. A. Azzi.—p. 175.
*Protein Therapy. T. Silvestri.—p. 176.
*Craniotomy for Pituitary Symptoms. N. Giannettasio.—p. 177.
*The Calcaneum Reflex. G. Ravà.—p. 179.
Rectal Cancer. A. Jappelli.—p. 180.

**Parenteral Injections of Milk.**—Silvestri found that the protein therapy had no apparent effect in nine cases of pneumonia or influenza. In twelve typhoid cases the injections seemed to aggravate conditions, inducing shock and intestinal hemorrhage. No effect was apparent further in chronic tuberculosis of any form, nor in two cases of athrepsia. In two cases of ozena the results were very fine at first, but transient. He warns that there may be congenital as well as acquired intolerance for milk, and that this should be borne in mind in protein therapy. In the acquired form, marked benefit is liable to follow the antianaphylaxis by parenteral injection of milk.

**Decompressive Craniotomy for Pituitary Symptoms.**—The woman of 33 had been presenting for some time disturbances of the type of adiposogenital dystrophia, and other symptoms such as we are accustomed to see with tumor of the pituitary gland. A palliative decompressive craniotomy was followed by notable improvement, all the symptoms subsiding except the amenorrhea and hemianopsia; the latter was improved but still persists to some extent. Radiography shows the sella turcica with better defined outlines now, evidently due to recalcification.

**The Calcaneum Reflex.**—The reflex is elicited by tapping the posterior inferior angle of the heel-bone which induces contraction of the semitendinosus, semimembranosus and the biceps. The patient lies on the same side, the thigh flexed on the pelvis and the leg flexed, to relax the muscles. The calcaneum is tapped without raising the foot from the plane of the bed. Ravà tabulates the findings with this reflex in cases of different nervous disturbances and in the healthy. In pseudobulbar disturbances, the reflex was present on both sides; in hemiplegia only on the diseased side. It should be tested on both sides, and he regards it as liable to prove an addition to our array of periosteum reflexes.

## Brazil-Medico, Rio de Janeiro

Jan. 22, 1921, **35**, No. 4

*Eczema of the Ear. A. de Carvalho.—p. 49.
*Anguish Neurosis. Areobaldo Lellis.—p. 51.
*Contralateral Eyelid Sign. A. L. Pimenta Bueno.—p. 53.

**Eczema of the Ear.**—De Carvalho agrees with those who advise keeping the ear dry, not only during the eczema but to prevent recurrence afterward. A good powder for the purpose is a mixture of 25 parts talcum with 5 parts zinc oxid and 100 parts starch.

**Neurasthenia and Anguish Neuroses.**—Lellis emphasizes the predominance of the subconscious in neurasthenia, and of anxiety, worry and dread, while this triad is not found in hysteria. The Freud conception of anguish neurosis is merely a badly interpreted neurasthenia, acute, with almost continuous attacks, or subacute, with intervals between attacks. He describes a case in a young woman who presented all the symptoms of the Freud anguish neurosis, and as her physician had told her it was time for her to get married, the condition seemed to bear the Freud sexual stamp. A recent attack of influenza had probably saturated her with toxins and the physician's words had diverted her morbid ideas in this direction. Lellis decried the idea that marriage was absolutely indispensable for her; he combated the intoxication and anemia, and as the physical condition improved, the trio, anguish, anxiety and fear gradually subsided and normal conditions were restored.

**Oculopalpebral Sign.**—Pimenta Bueno states that in cases of blepharospasm or blepharorrhaphy, or when there is hypertonus or hypercontracture of the orbicularis on one side, the anterior pole of the cornea on the sound side will be higher. He calls this the contralateral eyelid-eyeball sign.

## Semana Médica, Buenos Aires

Jan. 6, 1921, **28**, No. 1

*Syphilitic Disease of the Aorta. L. Jorge Facio.—p. 1.
*Hygiene in the Medical Curriculum. C. E. Paz Soldán.—p. 11.
*Hemorrhagic Purpura. Dardo García Díaz.—p. 17.
*Factors in Defective Development. J. A. López.—p. 18.

**Syphilitic Disease of the Aorta.**—This is a chapter of a work now in press.

**Hygiene in the Medical Curriculum.**—Paz Soldán explains that practical hygiene has five overlapping departments which together embrace the care of the sick and poor, sanitation in general, and sanitary prophylaxis and administration. Students must be trained along all these five lines, the whole forming what might be called biosocial progress.

**Hemorrhagic Purpura.**—García Díaz describes a case in a woman of 22 in which hemorrhagic purpura was the first manifestation of liver derangement. It had developed at the fourth month of a pregnancy, but subsided under treatment.

**Factors in Defective Development.**—López protests against the prevailing tendency to attribute to inherited syphilitic taint the malformations and anomalies found in the offspring. The possibility of tuberculosis should not be overlooked, and tuberculin or similar treatment should be applied as indicated.

Jan. 13, 1921, **28**, No. 2

*Anthrax. A. A. Rissotto.—p. 25.
*Tubercle Bacilli in Bile. A. C. Marchisotti.—p. 37.
Local Anesthesia in General Surgery. B. N. Calcagno.—p. 40.
Medical Ethics. B. González Alvarez.—p. 52.

**Anthrax.**—Rissotto found the bacilli in the blood in 7.23 per cent. of 235 persons with anthrax, and in 3.82 per cent. a malignant pustule had developed in the bowel. In 11.91 per cent. of the cases the blood cultures were positive for several days. Injection of normal horse serum in the healthy caused progressive leukocytosis, as also in five anthrax patients, but the anthrax itself seems capable of inducing leukocytosis.

**Excretion of Tubercle Bacilli in Bile.**—Marchisotti found the liver often affected in tuberculous cattle. Healthy milk can thus become readily contaminated by droppings from tuberculous cattle, or the apparently healthy cow herself may be voiding tubercle bacilli in bile by way of the stools. His research was done on cattle slaughtered for the market and thus supposedly healthy, the tuberculous lesions being a necropsy surprise. Human urine and stools are liable to transmit the tubercle bacilli as readily as sputum. Tuberculosis of the liver should be classed as "open tuberculosis" on this account. Tuberculin tests do not reveal the involvement of the liver in particular.

## Archiv für Gynaekologie, Berlin

1920, **113**, No. 3

Physiologic and Chemical Action of Juice Expressed from Ovarian Follicles. H. Wintz.—p. 457.
*The Endocrine Glands During Pregnancy. A. Mahnert.—p. 472.
*Tuberculosis of Fallopian Tubes. V. Kafka.—p. 490.
*Failures with Tubal Sterilization. G. Kalliwoda.—p. 565.
*Outcome with Collifixatio Uteri. P. Schäfer.—p. 588.
*Eclampsia and Stupor. Heinrichsdorff.—p. 596.
Pregnancy in Accessory Tube. R. Ekler.—p. 605.
*Sedimentation Rate of Erythrocytes. G. Linzenmeier.—p. 608.

**Abnormal Functioning of Ductless Glands During Pregnancy.**—Mahnert discovered that there was specific digestion of hypophysis albumin in 60 per cent. of the twenty-five pregnant women tested with the Abderhalden technic. These frequent positive findings seem to indicate abnormal functioning of this gland during gestation. Similar findings and conclusions are reported for the pineal gland in 40 per cent. of twenty women, while the proportion was 75 and 70 per cent. in twelve for the ovaries and suprarenals, and 57 per cent. for the thyroid. He argues that these ductless glands and certain organs are evidently suffering from some injury affecting them all more or less alike. The substance originating the disturbances and dysfunction may be generated in the placenta. Or the organs of internal secretion may be constitutionally inferior, and thus unable to stand the stress of the pregnancy. The pineal gland, on the other hand, seems to retrogress during a pregnancy.

**Tubal Tuberculous Processes.**—Kafka concludes from study of forty-eight cases of this kind that the infection may be of

blood borne origin or may spread from the peritoneum. No instance is known of primary tuberculosis of a fallopian tube, and he never found a case of probable lymph-borne origin, nor by propagation from the uterus or other adjoining organ.

**Tubal Sterilization.**—Kalliwoda discusses the possibility of conception after ligation of both tubes. She also reports a case in which a pregnancy developed after an operation, for genital prolapse, with interposition of the bladder and uterus, and tabulates fourteen cases of the kind on record. The unbearable disturbances in her case compelled interruption of the pregnancy. The article issues from Döderlein's clinic. In the seven years ending 1915, tubal sterilization had been applied in thirty-five cases with complete success. Since then, there have been four failures in thirty-two cases. This brings to twenty-one the number of cases on record in which conception occurred after supposed obliteration of the lumen of both tubes. In one case the tube had ruptured below the ligature. No instance is known in which pregnancy occurred more than once after ligation of the tubes. No method of tubal sterilization seems reliable, she reiterates, except wedge excision of the tubes or else embedding and suturing the tubes in the inguinal canal. Temporary roentgen-ray sterilization is still on trial.

**Collifixation of the Uterus.**—Schäfer mentions as the great advantage of this method of treating prolapse of the uterus, that it does not prevent a pregnancy later. It has been applied in ninety cases at Bumm's clinic to date.

**Stupor and Eclampsia.**—Heinrichsdorff has found at necropsies that focal thrombonecrosis is characteristic of eclampsia, while zones of degeneration are found in cases in which somnolency or stupor had been the predominant symptom.

**Sedimentation Rate of Red Corpuscles.**—Linzenmeier's experience and clinical observation have shown that the difference in sedimentation rate of the erythrocytes may serve to differentiate a myoma from a pregnancy, but it does not distinguish between an extra-uterine pregnancy and adnexitis. The sedimentation rate is higher in all inflammatory processes. Narcotics and heating check sedimentation, while mucilaginous substances hasten it.

## Archiv für Kinderheilkunde, Stuttgart

Dec. 28, 1920, **68,** No. 4-5

*Curvature of the Spine. E. Schlesinger.—p. 289.
*Stenosis in Children. F. Schäfer.—p. 314.
Acute Poisoning with Digitalis. A. Eckstein.—p. 322.
*Idiosyncrasy to Cow's Milk. H. Schricker.—p. 332.
*Ossification of the Hand. E. Stettner.—p. 342.

**Curvature of the Spine.**—Schlesinger presents his conclusions from study of 12,860 children, including 1,400 boys and 2,000 girls of grade school age. The others were older. He found rachitic curvature of the spine in 1.9 per cent. of the total, and congenital curvature in 10.1. It is important to differentiate these two types, as different treatment is required for them. Orthopedic measures are required for the rachitic, and institutional care is imperative. With the constitutional form, exercise under guidance, school antiscoliosis exercises, and similar measures should be kept up during the entire school life.

**Dyspnea from Stenosis in Children.**—In three of the four cases described, diphtheria was responsible for the stenosis. Tracheotomy was necessary in all. The tracheotomy relieved the suffocation and the heart, and allowed aspiration of the tenacious secretion, but two of the children died as the heart was too seriously damaged to recuperate.

**Idiosyncrasy to Cow's Milk.**—The year old, breast fed child had always thrived until weaned, but then the casein of cow's milk seemed to act like a poison, the general health suffering and urticarial edema developing at first. But the child soon became accustomed to the milk, and in twelve days was completely free from this so-called idiosyncrasy. Such cases teach the wisdom of giving very small amounts of cow's milk in changing from breast to cow's milk, allowing the child's digestive apparatus to learn gradually to cope with it. The case teaches further that the milk can be continued, with confidence that the healthy child will soon adapt itself to it. The different elements of the milk may be responsible for the disturbance in different cases, the fat, casein or whey. By separating the milk into its elements, we can learn which to incriminate, and perhaps reduce this temporarily.

**Ossification of the Hand.**—Stettner discusses the relations between the ossification of the hand and the growth and age of healthy and sick children from birth to puberty. He tabulates the findings in groups from the working classes, the well to do, city children and country children—a total of 250 normal children. The ossification processes in the hand may be regarded as an index of ossification in general.

## Deutsche medizinische Wochenschrift, Berlin

Dec. 16, 1920, **46,** No. 51

Friedmann Treatment in Experimental Tuberculosis. W. Kolle and H. Schlossberger.—p. 1405.
Immunization Trials with Friedmann's Turtle Tubercle Bacilli in Guinea-Pigs and Rabbits. P. Uhlenhuth and L. Lange.—p. 1407.
Clinical Value of Friedmann Treatment. J. Schwalbe.—p. 1410.
Specific Treatment of Tuberculosis by Practitioner. Knopf.—p. 1414.
Substitute for Nutrose in Culture Mediums. J. Leuchs.—p. 1415.
*Postgonorrheal Prostatitis. T. Messerschmidt and Walther.—p. 1416.
Physiology and Pathology of Muscle Tonus. K. Landauer.—p. 1416.
Radialis Phenomenon in Brachialgia. Boeckh.—p. 1418.
*Rejuvenation Operations on Man. L. Drüner.—p. 1419.
*Baths and Quinin in Chronic Malaria. R. Lurz.—p. 1420.
Recovery from Pregnancy Psychosis without Interruption of Pregnancy. F. Bierende.—p. 1421.
Mixed-Cell Lung Sarcoma with Giant Cells. E. Glass.—p. 1421.
"Treatment of Puerperal Sepsis." E. Hartwig.—p. 1422.
Theory of Protein Hypersensitiveness. W. Weichardt.—p. 1422
Strabismus. Abelsdorff.—p. 1423.

**The Bacteriologic Aspects of Chronic Prostatitis Following Gonorrhea; Effect of Autogenous Vaccines.**—Messerschmidt and Walther state that in the secretions of chronic prostatitis cases the types of bacteria are numerous and varied. In post-gonorrheal conditions gonococci are not usually present, although diplococci closely resembling gonococci are often found. Autogenous vaccines containing all the types of bacteria found in the secretion exert a favorable influence on the disease process, without the use of further therapeutic measures.

**Rejuvenation Operations.**—Drüner reports two cases in which enucleation of the much enlarged prostate in men of 70 and 72 was followed by harmonious general invigoration as after the Steinach operation in the younger man. In the older man the improvement was only along a few lines while the memory continued to decline and the high blood pressure to rise. Payr has suggested that prostatectomy may sometimes represent a modified Steinach operation.

**Baths to Enhance Action of Quinin.**—Lurz reports favorable experiences in treatment of chronic malaria with cool and cold baths, seeking to drive the blood away from the skin so that it will accumulate in the interior. He argues that this helps in driving malaria parasites out from their lurking places into the blood where they can be acted on by the quinin given with the course of baths.

Dec. 28, 1920, **46,** No. 52

Significance of Suprarenals in Epilepsy. H. Fischer.—p. 1437.
*Treatment of Rachitic Curvatures. Brüning.—p. 1438.
Demonstration of Acetone in Urine. H. Citron.—p. 1439.
Examination of Sputum. Warnecke.—p. 1439.
Transmission of Trichophytosis. Veilchenblau.—p. 1440.
Diseases of the Cornea. Steindorff.—p. 1440.

**The Treatment of Rachitic Curvatures.**—Brüning states that at the Orthopedic Congress in Dresden, Springer proposed a radical cure for curvature of the extremities, by slicing the bone. For this purpose he takes the whole diaphysis out of the periosteal covering, clamps it in a small vise, and saws it into disks, 1 cm. thick. The pieces are then restored to the periosteum. In this manner the most complicated curvature can be easily straightened. Putting back the pieces of bone in place often causes difficulty, and Brüning has tried a simpler technic. For the leg, he makes a skin incision 5 cm. long, above and below, on the inner side of the leg, or sometimes he makes only one incision in the middle over the principal curvature. By shifting the skin opening upward and downward he cuts through the periosteum, and with the Gigli saw he encircles the bone where, after examining the roentgenogram, he wishes to saw through the bone. Through each of the skin openings he can thus saw the tibia through in two or three places. The advantage of his method over

Springer's lies in the fact that the pieces of bone remain in their natural place and are not unnecessarily taken out of their periosteum. The periosteum is easily sutured together over the portions of bone. The fibula, after the skin wound has been closed, can usually be bent or fractured without difficulty by manual force, as it is generally less curved than the tibia. He remarks incidentally that in dealing with unusually hard bones, the saw blade must not be allowed to get hot, as this favors necrosis. He keeps it constantly wet while he is sawing, to prevent this.

## Deutsche Zeitschrift für Chirurgie, Leipzig

February, 1921, **161**, No. 1-2

*To Bridge Gap in Mucosa-Lined Tube. W. Budde.—p. 1.
*Ossifying Myositis. A. Manuwald.—p. 39.
Cholin Infusion in Surgical Tuberculosis. H. Fischer.—p. 52.
*Growth Disturbances in Bones. A. Schubert.—p. 80.
Multiple Gastric Ulcers. O. Orth.—p. 124.
Luxatio Pedis Sub Talo. E. Boerner.—p. 135.
Resection of Ribs for Pleural Empyema. E. Hollenbach.—p. 140.

**Plastic Reconstruction of Urethra and Esophagus.**—Budde expatiates on the better conditions for healing when a flap has a wide instead of a narrow pedicle, and this pedicle consists of subcutaneous tissue, thus sparing the skin. The reconstruction of a tube can be concluded at one sitting when these principles are followed, as he explains with examples and illustrations. In one case the posterior urethra had to be resected through the perineum, leaving an 8 cm. gap. A rectangular flap was cut in the under side of the scrotum but it was not detached along the center from the septum below. The mobilized sides of the flap were drawn up over a catheter and sutured to form a tube, and the connected soft parts were mobilized until they could be stretched well. The tube was then implanted in the gap in the urethra, bringing it into place through a subcutaneous tunnel. The result was a complete success in the two cases described although the wound suppurated in both. A similar technic has been worked out on the cadaver for a gap in the esophagus, rolling up the skin in the back of the shoulder to form the tube, its axis corresponding to the fibers of the muscle below which form part of the pedicle. The esophagus is resected and reconstructed through a posterior mediastinotomy. Other technics for reconstructing mucosa-lined tubes are compared with these.

**Multiple Progressive Ossifying Myositis.**—The patient is a girl of 4, healthy until her third year. No treatment seems to have done any permanent good in such cases except roentgen irradiation. In twenty-two cases on record this is said to have been successful, and Manuwald has already given two exposures in this case, but no effect is apparent to date. Horand has reported remarkable benefit in one case from twenty-six exposures, although the old foci of calcification were not modified.

**Growth Anomalies and Atrophy in the Skeleton.**—Schubert cites among other laws of growth that irritation of a long bone during the period of growth makes it grow unduly long. Eighteen months after an Albee bone graft had been taken from the right tibia of a girl of 12, that leg was found 0.5 cm. longer than its mate. This lengthening of the shaft is common in chronic bone disease. Congestion in a limb has a causal connection with local increased growth. The same cause that induces a growth anomaly in a child, induces atrophy of bone in an adult. Vasomotor disturbances are probably the causal factor in both, and these affect the capillary circulation rather than the large vessels. A bibliography of 145 titles is appended.

## Münchener medizinische Wochenschrift, Munich

Dec. 17, 1920, **67**, No. 51

Effect of Diseases on Ossification. E. Stettner.—p. 1459.
Hand-Forearm Reflex and First Phalanx Reflex. M. Goldstein.—p. 1460.
Artificial Aid in Impregnation of Ovum. M. Nassauer.—p. 1463.
Micromethod for Demonstration of Acidosis. H. Rohonyi.—p. 1465.
Is Sour Milk Injurious to Infants? H. Perger.—p. 1467.
Blood Picture of the Healthy Since the War. Lämpe and Saupe.—p. 1468.
Early Diagnosis of Pulmonary Tuberculosis. Litzner.—p. 1469.
Telangiectatic Granulomas. Luchs.—p. 1470.
Relations Between Gastric Ulcer and Cancer. H. v. Bombard.—p. 1471.
Hemorrhagic Encephalitis with Dysentery. S. Buttenwieser.—p. 1472.
Heredity of Diseases Associated with Vagotonia. F. Lenz.—p. 1473.
"Diagnostic Tuberculin." A. Wolff-Eisner.—p. 1473.
*Beethoven's Disease. W. Schweisheimer.—p. 1473.

**Beethoven's Disease.**—As Dec. 17, 1920, was the one hundred and fiftieth anniversary of Beethoven's birthday, Schweisheimer discusses the causes of his deafness and the necropsy findings, confirming the chronic liver disease. When Beethoven was tapped, he remarked that the surgeon was another Moses, smiting the rock and the fluid gushed forth.

## Wiener klinische Wochenschrift, Vienna

Nov. 25, 1920, **33**, No. 48

*Treatment of Tuberculosis of the Kidney. J. Winiwarter.—p. 1043.
*Allergic Reaction in Morphin Addicts. H. Kogerer.—p. 1045.
*Toe Symptom in Meningitis and Brain Edema. A. Edelmann.—p. 1045.
*Treatment of Pertussis with Silver Nitrate. R. Lederer.—p. 1049.
Tuberculosis in Austria in War Conditions. H. Hayek.—p. 1051.
Further Light on the "Nem" System. S. Rosenfeld.—p. 1051.

**Treatment of Tuberculosis of the Kidney.**—Winiwarter reports four cases of tuberculosis of the kidney in which catheterization of the ureters, to determine which kidney was affected, was impossible. He recommends in such cases sectio alta under anesthesia. Before opening the bladder he injects phlorizin and indigocarmin; he then catheterizes both ureters, passing the catheters out through the urethra. The tuberculous changes in the bladder are curetted and cauterized, and then the bladder and the abdominal wound are closed. In the meantime the urine from each kidney is collected and examined for albumin, blue staining and sugar. The functional tests should be completed by the time the preparations for nephrectomy have been made, so that no time is lost. The ureter catheters are then drawn out, a retention catheter is inserted in the bladder, and the tuberculous kidney is removed.

**Allergic Reaction in Morphin Addicts.**—Kogerer reports that the majority of morphin addicts present an easily perceptible hyposusceptibility of the skin to the intracutaneous injection of morphin solutions. In a number of the patients it was observed that the susceptibility increased during periods of abstinence. This reaction may clear up the diagnosis in a dubious case with denial on the patient's part.

**Toe Sign in Meningitis and Brain Edema.**—Edelmann states that if the leg, completely extended, is flexed at the hip joint, a dorsal extension of the big toe occurs in the presence of meningitis, in much the same manner as in the Babinski phenomenon. It seems to be an early symptom of meningitis. It appears also in senile meningitis in which rigidity of the neck and not infrequently the Kernig sign are absent. The symptom was observed not only with meningitis but also with brain edema.

**Treatment of Pertussis with Silver Nitrate.**—Lederer has treated twenty-five cases of pertussis with local applications of silver nitrate. The spastic stage was shortened, the night attacks were lessened and in cases of long standing the attacks no longer recurred. The method is contraindicated for timid, nervous children as the treatment is somewhat painful. During the first two weeks the pharynx is painted every two days with a 2 per cent. watery solution of silver nitrate. Then the treatment is interrupted for a few days to note the effect. If the paroxysmal attacks do not decrease, the nitrate is continued for another week. In the case of infants, Lederer recommends that the treatment be given daily. On the day following the treatment the attacks may be aggravated. The treatment did not prevent contagion of others in the family, and he ascribes its effect mainly to suggestion. Ochsenius has reported application of the method in 447 cases.

## Zeitschrift für klinische Medizin, Berlin

1920, **90**, No. 3-4

*Pathogenesis of Gout. Gudzent, Wille and Keeser.—p. 147.
*The Heart and the Internal Secretions. H. Zondek.—p. 171.
Orthodiagraphy of the War Heart. L. Kenéz.—p. 202.
*Dependence of Leukocyte Count on Posture. G. Jörgensen.—p. 216.
Plethysmography in Heart Disease. H. Schirokauer.—p. 253.
*Reaction to Parenteral Injection of Milk. E. Wetzel.—p. 253.
Changes in Suprarenals in Five Cases of Addison's Disease. W. Löffler.—p. 265.

**Gout.**—Gudzent found that the uric acid content of the blood varied within a wide range in the healthy and in the tuberculous, tabetic and other patients systematically tested on a purin-poor diet. In 45 cases of kidney disease, the range was from 1 to 5 mg. per hundred c.c. of blood, and in five others

from 5 to 8 mg. In 109 cases of gout, without typical attacks, the range was from 1 to 5 in all but 5, and in these it was never above 7 mg. Injection by the vein of 1 gm. monosodium urate in 200 c.c. of distilled water showed that the tissues in gout retain the urate, while in the healthy and with other diseases, the urate is nearly or completely eliminated. This retention of the urate by the tissues explains the oversaturation and formation of deposits of urates. The research reported supplies further bases for treatment of gout with dieting, mechanotherapy, balneotherapy and radium, and it throws light also on the action of colchicum.

**The Heart and the Internal Secretions.**—Zondek describes typical cases to show the changes in the heart with acromegaly, with giant growth, the thymicolymphatic status, chondrodystrophia, congenital myotonia, and thyroid anomalies. Each of these has its characteristic endocrine basis and its characteristic imprint on the heart.

**The Leukocyte Count and the Attitude.**—Jörgensen relates that the leukocyte count when reclining is much higher than in the erect position. The difference may amount to 100 per cent., but the count keeps at about the same level as long as the position is maintained, and the change occurs the same whether the position is altered rapidly or slowly. The number of erythrocytes does not fluctuate with the leukocytes, and the Arneth blood picture is not modified. He tabulates the findings in a number of persons in repeated tests, and emphasizes the importance of noting the position in taking the leukocyte count.

**Febrile Reaction to Injection of Milk.**—Wetzel declares that the absence of a febrile reaction to parenteral injection of milk is not constant enough to aid in diagnosis, although it is occasionally conspicuous in diabetes and cancer.

## Zentralblatt für Chirurgie, Leipzig

Dec. 4, 1920, **47**, No. 49

*Spiral Suturing for Varicose Veins. E. O. P. Schultze.—p. 1482.
*Improved Technic for Wiring Fractures. M. zur Verth.—p. 1483.
Outcome of Pneumatosis Cystoides. A. Neudörfer.—p. 1486.
Foreign Body in Hernial Sac. W. Haas.—p. 1488.
"Nephrotomy and Fixation of Movable Kidney."—E. Rehn.—p. 1490.

**Spiral Sutures Without Incision for Varicose Veins.**—Schultze states that in varicose veins with a positive Trendelenburg symptom he has achieved good results with various procedures, but of late he has employed another method which he thinks marks a distinct advance. He follows somewhat the plan of Rindfleisch's spiral excision. After ligation of the saphenous vein in the usual manner, he begins at the ankle, and using moist iodized catgut, he applies a spiral continuous suture (a running backstitch suture, *fortlaufende hinterstichnaht*), placing the stitches close together where they grasp veins, and making the winding turns of the spiral about 3 inches apart. Then, about 1½ cm. above the first spiral line of sutures he applies a second line parallel to it, in exactly the same manner. The stitches are pulled rather tight so as to grasp the tissues firmly close down to the fascia. If veins are pierced, there is no harm done, as the thrombogenic effect will be favorable; the next stitch is then taken just back of this point, grasps the whole vessel and stays the hemorrhage. The upward limit of the continuous spiral suture should be at least a hand's breadth beyond the highest visible varicose veins. If the skin is atrophic, the stitches should be closer together and should be drawn less taut to ward off necrosis. He has seen no disturbances. The sutures are left to absorb. Patients are confined to bed for about two weeks.

**Improved Technic for Wiring Fractures.**—Zur Verth discusses the method of soldering wire sutures, in surgery of the bones, as recommended by Neff and O'Malley (Chicago). He has found the method efficacious but thinks the technic is too long and complicated. He describes his modifications with a view to simplifying the procedure.

## Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 12, 1921, **1**, No. 7

Dynamometer Tests. J. H. O. Reijs.—p. 817.
Stain for Capsule of Bacteria. M. van Riemsdijk.—p. 823.
Ileus from Constriction by Appendix. L. L. Posthuma.—p. 835.
Transfusion of Blood. G. F. Gaarenstroom.—p. 836.

## Norsk Magazin for Lægevidenskaben, Christiania

February, 1921, **82**, No. 2

*Entero-Anastomosis in Treatment of Ileus. R. Ingebrigtsen.—p. 81.
*Changes in Blood on Different Diets. K. Utheim.—p. 96.
*The Loss of Weight in the Newborn. K. Utheim.—p. 104.
*Transplantation Cancers. G. Schaanning.—p. 109.
*Treatment of Poliomyelitis. H. Sæthre.—p. 122.

**Entero-Anastomosis in Treatment of Ileus.**—Ingebrigtsen pleads that in all cases of acute intestinal obstructions from adhesions, unless the adhesions can be easily broken up, it is better to leave them unmolested. The distended loop above and the flattened loop below the obstruction should be joined by side-to-side anastomosis. He describes seven cases in which he did this, leaving the excluded loop of unknown length unmolested. The interval since has been from three to eighteen months, and the outcome has been perfect in all except that two have had slight colic pains for a brief period. His attention was attracted to the necessity for this by the case of a man over 61 whose bowel ruptured while the operator was trying to detach it from the adhesions binding the loop down in the small pelvis. This compelled the resection of 12 cm. of the small intestine, but the patient's condition did not improve and a fistula was made in the small intestine. So much chyme was lost through this fistula that the patient died of debility as attempts to close the fistula had failed. He adds that if it is considered best to resect the excluded segment, this can be done later after the general condition has improved. The great argument in favor of leaving the adhesions unmolested is that the intestine may be twisted when bound down by bands, and hence the circulation is so impaired that the slightest traction causes rupture.

**Changes in the Blood with the Diet.**—Utheim describes experiments on seventeen grown rabbits and four young ones, to ascertain the changes in the composition of the blood, the circulation, and the volume with different conditions of nutrition.

**The Loss of Weight in the Newly Born.**—Utheim has been examining the records of 400 newly born infants in respect to the loss of weight, the fever and the concentration of the blood in the first week after birth, compared with the child's condition afterward. The loss in weight, he states, is a physiologic necessity, and is not accompanied by concentration of the blood.

**Transplantation Cancers.**—Schaanning reports five cases of transplantation metastasis of cancer after operation. He argues to show that the blood or lymph can scarcely be responsible for the spread of the cancer in these cases. In four the secondary cancer developed soon after the operation, but in one case over two years elapsed before the hypernephroma developed in the operative wound. In four of the cases laparotomy had been done—twice for gastric cancer and twice for uterine cancer, and in the fifth case nephrectomy.

**Treatment of Poliomyelitis.**—Saethre emphasizes the importance of warding off deformity from the very first of the disease. He shows by some instances that the backward curve at the knee, saber leg, is the result of neglect of proper precautions. Faulty or neglect of treatment he declares is responsible for nearly as much permanent functional loss after poliomyelitis as is the actual destruction of the cells of the anterior horns. Several illustrations are given showing improvised apparatus which will ward off the grave danger of allowing the muscles to be overstretched. These measures he advocates can be applied in the home with simple improvised appliances especially those to keep the feet at a right angle and the knees in the proper position. At first all the muscles must be kept in a completely relaxed condition, a passive repose. Not until all pains and hyperesthesia and Kernig's sign have disappeared should any exercise be undertaken supplemented by massage and electric treatment. A tendency to abnormal attitudes must be counteracted with artificial means, celluloid and flannel bandages, plaster, etc. These artificial aids must be regarded as only provisional but he adds that the best functional results are obtained in the hands of specialists as in the neurologic ward at the Rikshospital of which he is assistant. He describes his experience and the lessons therefrom, stressing in conclusion anew the importance of preventing any overstretching of muscles.